UNPACKING PRIVACY'S PRICE*

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This Article introduces a transaction cost economic framework for interpreting the roles consumers play in social networking services ("SNSs"). It explains why the exchange between consumers and SNSs is not simple and discrete, but rather a continuous transaction with atypical attributes. These exchanges are difficult for consumers to understand and come with costs that are significant and unanticipated. Under current structures of governance, there is no exit for consumers who wish to leave an SNS. In other contexts, similar transactions are bounded by tailored consumer protections. This Article explains the need for tailored consumer protection in the SNS context. Specifically, we argue that a consumer right to rescind enrollment in an SNS, triggering a deletion of and ability to export information shared with the service, is appropriate given the skewed aspects of personal information transactions.

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INTRODUCTION

Many view the relationship between a consumer and a social networking service ("SNS") as a simple exchange: the consumer provides personal information to the SNS, and the SNS provides a valuable service to the consumer. Personal information forms the currency of the exchange, making these services "free" in the sense that consumers need not reach for their wallets when using SNSs such as Facebook, LinkedIn, and MySpace. For instance, to enroll in Facebook, a user provides her name, email address, date of birth, and sex. She is then encouraged to link her account with friends and interact with them socially. The data provided, the "social graph," and the varied interactions among the friends become the basis for targeted advertising and applications, such as games. These and other third party applications support the Facebook network, which is then marketed as "free" to users.

Scholars have elucidated the behavioral economic aspects of these exchanges.[1] In the growing tradition of behavioral and experimental economics, this work investigates the effect of behavioral assumptions, such as bounded rationality, optimism bias, and information asymmetry, on economic change with personal information.

This Article introduces a transaction cost economic framework for interpreting the roles consumers play. The Article explains why the exchange between consumers and SNSs is not simple and discrete, but rather a continuous transaction with atypical attributes. These exchanges make it very difficult for consumers to determine the value of what they are trading and come with costs that are significant and unanticipated. Bilateral dependencies between the consumer and the

1. *See generally* Alessandro Acquisti & Jens Grossklags, *What Can Behavioral Economics Teach Us About Privacy?*, *in* DIGITAL PRIVACY: THEORY, TECHNOLOGIES AND PRACTICES 363 (Alessandro Acquisti et al. eds., 2008) (explaining why problems of bounded rationality, optimism bias, and information asymmetry contribute to consumers undervaluing personal information and underestimating risks associated with information sharing).

SNS emerge quickly and pose contractual hazards as SNSs monetize personal information in agreements with third parties.

Ease of transfer, difficulty of monitoring transfer, and persistence of digital data allow SNSs to present formidable barriers to anyone attempting to control the flow of value from the personal information that they provide to SNSs. Information-intensive companies exacerbate these problems by relying upon consumer ignorance of the rules, masking practices, and shifting practices once they have collected personal information from consumers. Under current structures of governance, there is no exit for consumers who wish to leave an SNS. In other contexts, analogous transactions are bounded by tailored consumer protections, such as cooling off periods or specific rules to simplify cancellation. The framework this Article discusses will help explain the need for tailored consumer protection in the SNS context. Specifically, this Article argues that a consumer right to rescind enrollment in an SNS, triggering a deletion of information shared with the service, and an ability to export information shared with the service are appropriate given the skewed aspects of personal information transactions.

This Article proceeds in three parts. Part I presents the investigative approach and behavioral assumptions of transaction cost economics as they pertain to the case of consumer agreements with service providers in networked industries. Part II examines the unique attributes of personal information as sources of value exchanged between consumers and SNSs, offering an economic definition of privacy in such exchanges. In Part III, evidence of disagreement between consumer expectations of privacy and terms of service is placed in an economic framework for understanding why consumer protection may be needed in transactions with SNSs. This Article closes with a brief discussion of the aims for regulatory action, given that the Internet is one of many forms of networked infrastructures governed by regulatory efforts to protect consumers.

I. TRANSACTION COST ECONOMICS

As the name implies, transaction cost economics takes the transaction to be the basic unit of analysis.[2] Transactions are both

2. OLIVER E. WILLIAMSON, THE ECONOMIC INSTITUTIONS OF CAPITALISM 18 (1985) ("The study of the economic institutions of capitalism, as herein proposed, maintains that the transaction is the basic unit of analysis and insists that organization form matters.").

economic and legal.[3] To transact is to do business, as in the completion of a trade: "To carry through negotiations; to have dealings, do business; to treat; also, to manage or settle affairs."[4] To transact is also to transfer legal control, an exercise encompassing the three constituents of "conflict, dependence, and order" sought as the foundation for institutional economic investigation by John Commons.[5]

Previous economic literature asked how prices were determined, attributing problematic outcomes to the nature of the goods or markets in which they were traded.[6] Transaction cost economics asks how transactions are governed. As Oliver Williamson says,

> Transaction cost economics poses the problem of economic organization as a problem of contracting. A particular task is to be accomplished. It can be organized in any of several alternative ways. Explicit or implicit contract and support apparatus are associated with each. What are the costs?
>
> Transaction costs of *ex ante* and *ex post* types are usefully distinguished. The first are the costs of drafting, negotiating, and safeguarding an agreement. This can be done with a great deal of care, in which case a complex document is drafted in

3. Legal scholars have applied transaction cost analyses in the context of patent law, property rights, and consumer law. *See generally* Paul J. Heald, *A Transaction Costs Theory of Patent Law*, 66 OHIO ST. L.J. 473 (2005) (justifying patent law based on private transaction cost savings); Robert P. Merges, *A Transactional View of Property Rights*, 20 BERKELEY TECH. L.J. 1477 (2005) (arguing that property rights facilitate transactions and encourage contracts); Lauren E. Willis, *Decisionmaking and the Limits of Disclosure: The Problem of Predatory Lending: Price*, 65 MD. L. REV. 707 (2006) (analyzing consumer decision making in homebuyers by considering disclosures required of lenders). For a description of uses of transaction cost economics in legal analysis of corporate mergers, see Malcolm B. Coate, *Efficiencies in Merger Analysis: An Institutionalist View*, 13 SUP. CT. ECON. REV. 189, 199–240 (2005).

4. 18 OXFORD ENGLISH DICTIONARY 386 (John Simpson & Edmund Weiner eds., 2d ed. 1989).

5. 1 JOHN R. COMMONS, INSTITUTIONAL ECONOMICS: ITS PLACE IN POLITICAL ECONOMY 4 (1961).

6. *See generally* A.C. PIGOU, THE ECONOMICS OF WELFARE (4th ed. 1932) (theorizing on the causes of market failure under competitive market conditions including preferences for present over future value, externalities, and the inadequacy of Pareto's data for a generalizable assumption that social welfare improves commensurate with individual welfare, and non-competitive market conditions, as in goods prone to monopoly); ADAM SMITH, AN INQUIRY INTO THE NATURE AND CAUSES OF THE WEALTH OF NATIONS (Edwin Cannan ed., Random House 1937) (1776) (theorizing on the public good brought about by market expansion from the division of labor, the investment of capital in domestic industry, and the self-interested exchange of surplus goods in competitive market conditions, except for conspiracies to raise prices and goods prone to monopoly).

> which numerous contingencies are recognized, and appropriate adaptations by the parties are stipulated and agreed to in advance. Or the document can be very incomplete, the gaps to be filled in by the parties as the contingencies arise.[7]

Transaction cost economics provides a framework for analyzing exchanges that occur even though the price of the product seems to be zero. SNSs are not typically charging a price or asking for any monetary exchange when consumers enter into agreements for their services. At this writing, Facebook's homepage exhorts, "Sign Up[:] It's free and always will be."[8] Thus, the case of exchange between individuals and SNSs appears anomalous to orthodox economic forms of analysis. However, when attention is turned away from the details of price and competition, and toward contracts for transactions, research recognizes that costs are generated in the formation of contracts, are ongoing with the execution of contracts, and are set apart from—or exist in addition to—expenditures made with an economically functioning price mechanism.[9]

For simple commodities, like a can of soup on the grocery store shelf or an orange from a stand at the local farmer's market, analysis may assume that ex ante competition exerts downward pressure on

7. WILLIAMSON, *supra* note 2, at 20.

8. FACEBOOK, https://www.facebook.com/ (last visited May 7, 2012).

9. *See* WILLIAMSON, *supra* note 2, at 22 (explaining that transaction costs are assessed by holding the nature of the good or service constant and comparing the mode of contract for evidence of economizing on the sum of production and transaction cost); Oliver E. Williamson, *Comparative Economic Organization: The Analysis of Discrete Structural Alternatives*, 36 ADMIN. SCI. Q. 269, 277–86 (1991). Williamson agrees with Hayek's claim that the price system is an "extraordinarily efficient mechanism" for inducing change, and that adaptation to change is the main economic problem. *Id.* at 277. Transaction cost economics claims that discrete structural alternatives for organizing activity—firms, hybrid forms of contract, and markets—differ in their costs and competencies for the adaptive governance of transactions ex post in relation to trade in assets specific to the transaction. Transaction cost economic analyses can accept the assumption that, as in competitive markets, ex ante prices reflect the cost of production. Williamson devised a heuristic model that predicts rising transaction costs ex post in the presence of asset specificity if not relieved by economic organization from markets, into hybrid contracts, or hierarchies. The price agreed to ex ante, when the contract is signed, may reflect the cost of production under competitive market conditions. Yet, even with competition, ex ante price may not anticipate ex post transaction costs. Heuristic model aside, the theory also applies when prices do not reflect production cost. In such cases, the economy of comparable alternative structures of governance is measured, *ceteris paribus*, with reference to the sum of production and transaction cost. In total, the theory explains the economics of organization by drawing cost implications from the micro-analytics of transactions for forms of organization at the level of the generalized economic system. We use the term "cost-efficient," as the sum of production and transaction cost, and "economical," interchangeably.

the price of the good such that price approaches the cost of production.[10] Simultaneously, price conveys information to the consumer, who spends time comparing the price against the satisfaction gained from competitive or substitutable commodities.[11] Public and private organizations have also invested labor and materials to shape the rules for bringing these goods to market, each of which may facilitate the consumer's ability to economize as a comparison shopper.[12] Examples include systems of weights and measures, currency, and the rule of law for implicit and explicit contracts.[13]

Exchanges between consumers and SNSs are much more complex than purchases of canned soup and oranges, but they are equally amenable to transaction cost economic analysis. When consumers join SNSs, one can ask about the cost or value of the goods produced and exchanged, but we can also ask about expenditures to develop and interpret terms of service agreements; the relationship between consumer expectations and the services or terms of service; and efforts to develop the institutions—beyond terms of service—that govern these transactions.[14]

For simple commodities, like cans of soup and oranges, there may not be a reason for concern after the contract is signed. Many such transactions take place very quickly, with consumers either satisfied that their expectations were met or comfortable looking for the next best alternative.[15] Signing up for an SNS takes just seconds.

10. Costs of production would include, for instance, the cost of purchasing contents; preparing, packaging, and distributing the can of soup; or growing, harvesting, and transporting the orange to market.

11. On the information prices convey, see F.A. Hayek, *The Use of Knowledge in Society*, 35 AM. ECON. REV. 519, 525–28 (1945).

12. For an illustration of institutions governing transactions, see Oliver E. Williamson, *The New Institutional Economics: Taking Stock, Looking Ahead*, 38 J. ECON. LITERATURE 595, 597 (2000).

13. For a captivating anecdote demonstrating the role of institutions in reducing the cost of exchange in a commodity as simple as an orange, see DOUGLASS C. NORTH, STRUCTURE AND CHANGE IN ECONOMIC HISTORY 34–37 (1981).

14. Douglass C. North, *Prologue* to THE FRONTIERS OF THE NEW INSTITUTIONAL ECONOMICS 3, 6 (John N. Drobak & John V.C. Nye eds., 1997) ("[Institutions] are the rules of the game of a society and in consequence provide the framework of incentives that shape economic, political, and social organization. Institutions are composed of formal rules (laws, constitutions, rules), informal constraints (conventions, codes of conduct, norms of behavior), and the effectiveness of their enforcement. Enforcement is carried out by third parties (law enforcement, social ostracism), by second parties (retaliation), or by the first party (self-imposed codes of conduct).").

15. Ian R. Macneil, *The Many Futures of Contracts*, 47 S. CAL. L. REV. 691, 738–40 (1974) (charting the characteristics of the "extreme transactional pole"); Williamson,

However, the relationship can last for a great deal of time and, as such, it resembles other kinds of transactions seen in more visible sectors of networked infrastructures (e.g., finance, water, and communications)—sectors where we have experience and research that leads us to be much more concerned about what happens as time goes on.[16] Similarly, transaction cost economics focuses on the fact that the cost of transacting can rise, uneconomically, after the contract is signed. As Williamson also says

> *Ex post* costs of contracting take several forms. These include (1) the maladaptation costs incurred when transactions drift out of alignment . . . (2) the haggling costs incurred if bilateral efforts are made to correct *ex post* misalignments, (3) the setup and running costs associated with the governance structures (often not the courts) to which disputes are referred, and (4) the bonding costs of effecting secure commitments.[17]

Alignment refers to the game-theoretic balancing of interests and incentives that the parties operate with as they craft and carry out their agreements, whether organized within the firm or by contract for market exchange. Misalignment is the failure of either the parties or the institutional structure to strike a proper balance of interests and incentives.[18] The result is inefficiency, reflected in elevated bargaining costs, disputes, or other factors that impede the cost-efficient execution of the transaction.[19] Thus, misalignment suggests

supra note 12, at 603 (describing "the ideal transaction in both law and economics: sharp in by clear agreement; sharp out by clear performance" (internal quotation marks omitted)).

16. *See generally* WERNER TROESKEN, THE GREAT LEAD WATER PIPE DISASTER (2006) (recounting the decision to install lead pipes for potable household water supply in cities across the United States, and the resulting public health issues and slow accumulation of regulatory measures associated with their use); Brian Levy & Pablo T. Spiller, *The Institutional Foundations of Regulatory Commitment: A Comparative Analysis of Telecommunications Regulation*, 10 J.L. ECON. & ORG. 201 (1994) (finding—based on a transaction cost analysis of privatized telecommunications infrastructure in five countries—that regulatory procedures improve performance when restraining arbitrary administrative action).

17. WILLIAMSON, *supra* note 2, at 21.

18. *See* Masahiko Aoki, *Managerialism Revisited in the Light of Bargaining-Game Theory*, 1 INT'L J. INDUS. ORG. 1, 5 (1983) (defining misalignment in the context of economics). Williamson defines alignment according to the game theoretic concept (developed by Aoki) of parties undergoing pervasive ex post bargaining over more than price, resulting in a shifting contract curve—for management and employees in firms, a curve in the space of vectors for wages, but also numerous other managerial policies. WILLIAMSON, *supra* note 2, at 29.

19. *See* WILLIAMSON, *supra* note 2, at 29. Importantly, transaction cost economic theory maintains that bargaining ex post is just as relevant, if not more so, than bargaining

that the contracts parties use to govern their exchange are more expensive to execute than they should be or, importantly, that the contracts in question do not adequately safeguard the parties' interests.[20] The Federal Trade Commission has promulgated a number of specific rules to address misalignment, including disclosures surrounding cancellation rights in negative-option sales relationships (e.g., Columbia House-style DVD and book clubs)[21] and rules for mail and telephone order purchases.[22] In large part, this Article explores the nature of the goods exchanged between consumers and SNSs, and early evidence of misalignment between consumer expectations and terms of service, which may already be leading consumers, en masse, toward the uneconomical effects of ex post maladaptation.[23]

ex ante. As Williamson says "it is impossible to concentrate all the relevant bargaining action at the ex ante contracting stage. Instead, *bargaining is pervasive*—on which account the institutions of private ordering and the study of contracting in its entirety take on critical economic significance." WILLIAMSON, *supra* note 2, at 29.

20. The idea that excessive ex ante and ex post costs can result from misaligned incentives between parties to an exchange becomes realistic when considering the "inherently fragmentary nature" of the promise embodied in contracts. Macneil, *supra* note 15, at 726. The pervasiveness of incomplete contracts, coupled with the extent to which the incentives of the parties to engage in the exchange differ, establish the context for pervasive and therefore costly ex post bargaining. *Id.* at 726–35.

21. *See* Use of Prenotification Negative Option Plans, 16 C.F.R. § 425.1 (2011). Columbia House is a large, direct-to-consumer marketer of DVD media. It was well known for offering a bundle of music compact discs or tapes at a substantial discount, in exchange for the consumer enrolling in a "negative option plan," where the consumer would automatically receive a compact disc or tape if they failed to cancel the order. *See* Daniel Kreps, *"12 For One" CD Deals No More: BMG Music Service Ends in June*, ROLLING STONE (Mar. 10, 2009, 5:32 PM), http://www.rollingstone.com/music/news/12-for-one-cd-deals-no-more-bmg-music-service-ends-in-june-20090310.

22. *See* Mail and Telephone Order Merchandise, 16 C.F.R. § 435.1 (2011).

23. *See* OLIVER E. WILLIAMSON, THE MECHANISMS OF GOVERNANCE 25–28 (1996) [hereinafter WILLIAMSON, MECHANISMS OF GOVERNANCE]. The market and firm are broad and encompassing examples of alternative structures for governing transactions. *Id.* at 25. The many forms of contract are a more fine-grained view of the same phenomena. Misalignment, in this conception, expresses the idea that a given structure may not be the most economical option available for governing a given transaction. Maladaptation suggests that the structure parties use to govern a given transaction does not allow the parties to adapt in a cost-efficient way to ex post change, whether that change is internal to the transaction, as in the changing interests of the parties, or external, as in changing market conditions. *See* OLIVER E. WILLIAMSON, MARKETS AND HIERARCHIES: ANALYSIS AND ANTITRUST IMPLICATIONS 4–5 (1975) [hereinafter WILLIAMSON, MARKETS AND HIERARCHIES]; *id.* at 25–28.

A. Studying Transactions: Theory and Empirical Tests

In studies of transactions, any form of economic organization (e.g., short-term contract, long-term contract, employment contract, procurement contract) could conceivably function efficiently. The world is filled with forms of contract and other governance structures applied to a panoply of transactions.

Much of Williamson's work resembles a typology of activities with the terms of contracts often found to govern them. *Markets and Hierarchies*[24] and *The Economic Institutions of Capitalism*[25] describe a diverse array of contractual arrangements, from spot markets to monopolies. What follows from the theory and typology is a hypothesis of discriminating alignment, which holds that "transactions, which differ in their attributes, are aligned with governance structures, which differ in their costs and competencies, in a discriminating (mainly transaction-cost economizing) way."[26] Ronald Coase suggested that the cost of transacting can explain why economic activity is organized into firms.[27] Williamson operationalized this theory with the idea that economic activity is organized the way it is—from the spot market transaction, to the employment contract, to the regulated monopoly—in order to economize transaction costs.

If governance structures are predicted to serve economizing purposes, then the main source of variation in economic research would be the transaction. As Williamson explains, "[a] predictive theory of economic organization will recognize how and why transactions differ in their adaptive needs."[28] Furthermore, his collective work developed through the positive argument that "more complex modes of governance are reserved for more hazardous transactions."[29] Reference to hazards is expanded in analysis from moral hazard to any attribute that may lead the parties toward excessive expenditures or disputes, especially when such expenditures

24. *See generally* WILLIAMSON, MARKETS AND HIERARCHIES, *supra* note 23.

25. *See generally* WILLIAMSON, *supra* note 2.

26. Williamson, *supra* note 9, at 277.

27. *See generally* R.H. Coase, *The Nature of the Firm*, 4 ECONOMICA 386 (1937) (theorizing that the price mechanism and the firm are simply alternative means for coordinating production, that there is a cost to using the price mechanism, and that the firm supersedes the price mechanism when the choice of vertical integration economizes on the cost of transacting).

28. Oliver E. Williamson, *The Theory of the Firm as Governance Structure: From Choice to Contract*, 16 J. ECON. PERSP. 171, 175–76 (2002).

29. Oliver E. Williamson, *The Lens of Contract: Private Ordering*, 92 AM. ECON. REV. (PAPERS & PROC.) 438, 441 (2002).

or disputes could be remedied through alternative forms of governance.[30] The structures that govern banks or water utilities in agreements with consumers evolved into much more complex systems than those that govern the sale of oranges or cans of soup. The structures that govern SNSs in agreements with consumers may someday be much more complex than the streams of text with opt-in or opt-out boxes that are used today.[31]

One can also study transactions from the other point of view. If the transaction is taken as given,[32] the main source of variation becomes the structure of governance. A multitude of legal instruments have been developed to govern the many transactions that take place in the economy.[33] The bulk of empirical studies in transaction cost economics test, in a comparative micro-analytic way, the cost consequences of alternative structures for governing given transactions.[34] In the traditions established through thirty years of empirical tests,[35] one may also comparatively analyze the costs to

30. For several examples of contractual hazards, including moral hazard, in the context of tangible goods and the remedy of hazards through vertical integration, see Oliver E. Williamson, *The Vertical Integration of Production: Market Failure Considerations*, 61 AM. ECON. REV. (PAPERS & PROC.) 112, 114–22 (1971).

31. Transactions between consumers and SNSs are more complex than is recognized. That is, there are more hazards embedded in these transactions than are safeguarded by current contractual arrangements or the institutional environments in which they operate. If the history of transactions between consumers and networked infrastructure firms is any guide, the desire of consumers, regulators, political representatives, and firms for either economic growth or relief from the impacts of these hazards may, over time, spur these parties to adopt safeguards to remedy the hazards in these transactions.

32. Meaning, one's study is focused on one particular type of transaction. The purchase of oranges by an individual from a seller at a farmer's market is one example. This Article is focused on the exchange of personal information between individuals and SNSs online, though we draw insights from transactions with similar attributes regarding the monetization of personal information, consumer protection, and the economics of networked industries.

33. *See, e.g.*, Macneil, *supra* note 15, at 693–94 (theorizing that the world of contract is a world of relation in an ongoing dynamic state, engaging many aspects of the total personal beings of the participants, and only in the extreme case of discrete transactions is it reducible to the contract as a promise with law). *See generally* Ian R. Macneil, *A Primer of Contract Planning*, 48 S. CAL. L. REV. 627 (1975) (providing a primer for planning contractual transactions and relations, covering the functions of planning for negotiation, drafting, performance, risk, dispute resolution, and administration).

34. *See, e.g.*, Williamson, *supra* note 9, at 279–82.

35. *See generally* Francine Lafontaine & Margaret Slade, *Vertical Integration and Firm Boundaries: The Evidence*, 45 J. ECON. LITERATURE 629 (2007) (providing a review and meta-analysis of empirical studies regarding the types of transactions that are best brought within the firm and the consequences of vertical integration decisions for economic outcomes, as predicted in transaction cost economic theory); Howard A. Shelanski & Peter G. Klein, *Empirical Research in Transaction Cost Economics: A Review and Assessment*, 11 J.L. ECON. & ORG. 335 (1995) (summarizing and assessing empirical

consumers, SNSs, and parties external to the transaction resulting from alternative structures of governance.

This orientation for research can be normative, in the sense that it can involve studying the attributes of a given transaction for the purpose of proposing a more cost-effective governance structure. In other words, if no comparable transacting partners exist for modeling the costs of a proposed new structure of governance, one can explore, in a more casual yet systematic way, the cost consequences of importing governance structures from other types of transactions that once shared the same problematic attributes. If the structures that govern transactions between service providers and consumers in other sectors of networked infrastructure could alleviate a known contractual hazard between SNSs and consumers, the next step is to ask how much it costs to develop and use those structures. On the whole, the basic idea is this: to economize on the costs of transacting, we need to get the governance structures right. As it turns out, this is not always easy to do.

B. Behavioral Assumptions in Transaction Cost Economics

Emphasis on misalignment and maladaption may give one the impression that something is awry in the transaction cost view of economic exchange. That is to say, our economies are filled with transactions that seem uneventful—exchanges occur one after the other without signs of discontent. Transaction cost economists are not, as a rule, uninterested in perfectly planned and executed agreements. They do, however, think that the most interesting action resides in transactions that do not work out as the parties anticipated. Not every transaction is simple or economical. Nor is every transaction rational for those who engage in them.

Human behavior can be markedly different from rational self-interest, with direct implications for the fulfillment of contracts.[36] As Williamson says

> [t]he human actors who populate the world of contract differ from those of the world of choice in both cognitive and self-interestedness respects. . . . [S]trategic behavior that had

research in transaction cost economics and the implications thereof in potential applications in public policy).

36. *See* WILLIAMSON, MARKETS AND HIERARCHIES, *supra* note 23, at 31–33 (describing the implications for contract execution from the combined assumptions of bounded rationality, opportunism with guile, and information asymmetry); *cf.* Williamson, *supra* note 28, at 173–74 (describing human actors in more realistic terms, as subject to bounded rationality).

> previously been ignored or denied becomes central upon making express allowance for opportunism. Bounded rationality (behavior that is intendedly rational but only limitedly so) is the cognitive assumption. . . . Viewed . . . from the lens of contract, the chief lesson is that all complex contracts are unavoidably incomplete. But there is more. Not only are contracts incomplete by reason of bounded rationality, but the readiness with which common knowledge of payoffs is invoked is deeply problematic. Relatedly, the combination of bounded rationality and opportunism is responsible for nonverifiability.[37]

With no bounds on rationality, people would be able to plan perfectly and contracts would be complete and administered as intended. In the absence of opportunism, everyone delivers on their promises and contracts are executed efficiently because they are free of the self-serving actions parties take as they bargain, haggle over, or execute agreements—many of which are sources of contractual hazards.[38] Williamson's message is that people are rational, but they cannot anticipate everything that will happen.[39] People are opportunistic in that they may, but do not always, take advantage of one another. These assumptions allow for the fact that human actors are confronted with the need to adapt to "unanticipated disturbances that arise by reason of gaps, errors and omissions in the original contract," but also for the fact that strategic behavior may lead to costly contractual breakdowns.[40] And though performance is expected to be tied to incentives, such as payoffs and punishments,[41] people are challenged to learn and verify performance ex post, in fulfillment of the contract.

The literature on the behavioral economics of privacy is quickly expanding, with significant contributions made by Alessandro

37. Williamson, *supra* note 29, at 440.

38. WILLIAMSON, *supra* note 2, at 31.

39. *See* Herbert A. Simon, *Rationality in Psychology and Economics*, J. BUS., Oct. 1986, pt. 2, at S209–11.

40. Williamson, *supra* note 28, at 174. For a discussion of breakdowns in the SNS context, see *infra* Part III.

41. *See* DOUGLASS C. NORTH, UNDERSTANDING THE PROCESS OF ECONOMIC CHANGE 18 (2005) ("Historically, institutional change has altered the pay-off to cooperative activity (the legal enforcement of contracts, for example), increased the incentive to invent and innovate (patent laws), altered the pay-off to investing in human capital (the development of institutions to integrate the distributed knowledge of complex economies), and lowered transaction costs in markets (the creation of a judicial system that lowers the costs of contract enforcement).").

Acquisti and Jens Grossklags.[42] Their theoretical work describes the application of optimism bias, bounded rationality, and information asymmetry. In the empirical realm, both authors have begun to elucidate how these factors affect individuals in experiments.[43] Behavioral economics provides critical input to transaction cost analysis; however, it does not always have the transaction in mind.

C. Attributes of Transactions

The idea that transactions have attributes is rather abstract. It is relatively easy to say that products have attributes, because products may be more or less complex, or tangible, or durable. It is also relatively easy to discern the attributes of parties to transactions. One can assume that private firms are interested in making profits, or are at least in the short-run interested in growing their reputation with a customer base that will ultimately provide long-run profits. One can say that consumers, too, are not as well-organized or endowed with resources to investigate the consequences of their transactions as firms are, especially when firms are large entities in multiple lines of business. Similarly, public and nonprofit entities have attributes that can be specified. Attributes of transactions emerge from these elements and more, yet are organized to separate those that may lead to ex post maladaptation from those that may not.

Williamson discovers the attributes of transactions by comparing descriptions of economic activities, searching for the conditions that seem to cause organizational forms to break down or emerge. The attributes he notes include uncertainty, complexity, large or small numbers of competitors, high or low powered incentives, recurrence or frequency of exchange, and first-mover advantages.[44] Though commonly invoked to describe markets, these terms are also used to distinguish ex ante from ex post conditions for transacting. Attributes he identifies also include information that is costly to discern, difficult to display, or asymmetrically distributed between the parties, and conditions where one or more party enters the transaction with, or obtains ex post, an asset—such as experience, information, or investments—of value only to the specific transaction at hand.

42. *See, e.g*, Acquisti & Grossklags, *supra* note 1, at 363–77.

43. *See generally* Alessandro Acquisti & Jens Grossklags, *When 25 Cents Is Too Much: An Experiment on Willingness-To-Sell and Willingness-To-Protect Personal Information*, 6 WORKSHOP ON ECON. INFO. SECURITY (2007), http://weis2007.econinfosec.org/papers/66.pdf (presenting empirical results of research study on participant's willingness-to-pay for protecting information).

44. *See* WILLIAMSON, MARKETS AND HIERARCHIES, *supra* note 23, at 21, 28.

Williamson also notes attributes that set the internal workings of hierarchical organizations apart from markets, such as advantages in sequential decision making, convergent expectations, cooperation, and auditing.[45] These variables matter for their potential to explain why institutional arrangements, such as contracts, may or may not allow economic actors to efficiently adapt to change ex post, after the contract is signed.

Several of the attributes Williamson described may already be present in transactions between consumers and SNSs. Consider the choices available to consumers. Each online firm strives to differentiate its products in order to attract customers, and in doing so it develops services that may or may not be competitive or suitable substitutes for those of another online firm.[46] Facebook proved more competitive than MySpace in attracting consumers. LinkedIn and YouTube do not engage consumers in the same activities or offer them similar enough products to have caused consumers to abandon Facebook.[47] In other words, Facebook and MySpace were once competitors, while Facebook, LinkedIn, and YouTube serve distinct online markets. In the SNS space today, there is little competition. At this writing, Facebook claims to have over 800 million active users,[48] and the business-oriented LinkedIn has more than 135 million users.[49] Google recently released its SNS, Google+,[50] but until Facebook suffers a bandwagon abandonment like that experienced by MySpace, it is likely to be the forum for social connections online. In

45. *See id.* at 25–30.

46. The absence of geographic disparity and uniformity of the role of information in online markets heightens the drive of online firms to differentiate their products, thus increasing the likelihood that online service providers generate products that serve distinct markets. For candid descriptions of the role of product differentiation for online business, see CARL SHAPIRO & HAL R. VARIAN, INFORMATION RULES: A STRATEGIC GUIDE TO THE NETWORK ECONOMY 19–81 (1999). For a description of market structures and differentiation, see also WILLIAMSON, MARKETS AND HIERARCHIES, *supra* note 23, at 24–27. For SNSs, the appeal to know one's customer in order to personalize information is also apropos.

47. LinkedIn is a social networking service focusing on business relationships. *See About Us*, LINKEDIN, http://press.linkedin.com/about (last visited May 7, 2012). YouTube has social aspects similar to other SNSs, but it is primarily used for posting videos online. *See About YouTube*, YOUTUBE, http://www.youtube.com/t/about_youtube (last visited May 7, 2012).

48. *Statistics*, FACEBOOK, http://newsroom.fb.com/content/default.aspx?NewsAreaId=22 (last visited May 7, 2012).

49. *About Us*, *supra* note 47.

50. *Introducing the Google+ Project: Real-Life Sharing, Rethought for the Web*, GOOGLE OFFICIAL BLOG (June 28, 2011, 1:45 PM), http://googleblog.blogspot.com/2011/06/introducing-google-project-real-life.html#!/2011/06/introducing-google-project-real-life.html.

Williamson's terms, transactions between consumers and SNSs are thus a small numbers game because, although competition could arise for Facebook as it did for MySpace,[51] competitors are not proving to be effective in bidding for the attention of Facebook's consumers.[52]

Small numbers games are important precursors to problems of ex post maladaptation, and small numbers and maladaptation are more likely in the presence of other attributes that exist in transactions between SNSs and consumers. First-mover advantages refer to the fact that each SNS, as it enrolls each consumer in its distinct market, obtains an advantage over services that compete in the same market for the same consumer; the SNS has a chance to learn from this experience, to capitalize on newly gained knowledge of each consumer, and to reinvest the capital or apply the knowledge to retain the consumer (simultaneously staving off competition). Indeed, consumers revisit SNSs, making recurrent and perhaps frequent transactions. What consumers provide to SNSs and produce online fits Williamson's definition of an asset specific to the transaction as long as these products cannot be easily extracted, ported to, and used through competing providers. If consumers find it difficult to monitor the use of their data by the SNS, then the information consumers need in order to effectively monitor the execution of their contract with the SNS is costly to discern. If the SNS enters the transaction with more information relevant to the monetary value of the data to be exchanged than the consumer, then the consumer could be said to be on the less advantageous side of an agreement formed and executed with asymmetric information. In addition, many private firms online operate with high-powered incentives—rewards that accrue to executives through stock options, consignments, or similar merit-based systems as well as salaries—that make their compensation somewhat contingent on their ability to continually, perhaps increasingly, monetize what they obtain through exchange.

By elucidating the combined effect of the aforementioned attributes with the behavioral assumptions of bounded rationality and opportunism, transaction cost economics can be used to identify

51. Generally, the assertion that competition *could* arise is true for every market at any time, yet it is impossible to prove, and of little or no assistance in discerning the cost-efficiency of current organizational forms and market structures.

52. If the number is one, then the firm is the exclusive partner for trade in its market of services and thus, by definition, has a monopoly in trade for those services. Small numbers also refers to conditions of oligopoly and duopoly.

problems for consumers that have potential antitrust implications.[53] Explaining why opportunism holds profound implications for the choice of contract to govern transactions, Williamson quotes prominent sociologist Erving Goffman, who stated that opportunistic behavior involves making "false or empty, that is, self-disbelieved, threats and promises" with the expectation that such statements will result in real advantages for one party over the other.[54] How would boundedly rational consumers, limited in their ability to discern the nature or consequences of actions taken by SNSs with their data, be able to distinguish ex ante or monitor ex post the sincerity of statements made by the SNS? Consumers today cannot be certain how information they have shared will be used at a later date—by either the SNS or by fellow users of the SNS. In fact, it is the business model of many information-intensive companies to draw the consumer in through the offer of one thing and later convert the offering to monetize the property. The ultimate offering may not even be foreseeable to the creator of the SNS itself.

If there were large numbers of competitors in the market, such that the costs of migrating to other SNSs were made trivial, then opportunistic behavior on the part of any single SNS would not be expected to last. However, when opportunism is joined with small numbers, as Williamson says

> [a]ll the types of difficulties associated with exchange between bilateral monopolists in stochastic market circumstances now appear. The transactional dilemma that is posed is this: it is in the interest of each party to seek terms most favorable to him, which encourages opportunistic representations and haggling. The interests of the *system*, by contrast, are promoted if the parties can be joined in such a way as to avoid both the bargaining costs and the indirect costs (mainly maladaptation costs) which are generated in the process.[55]

53. Indeed, the title of Williamson's first thorough presentation of transaction cost economic theory included the phrase "Antitrust Implications." *See generally* WILLIAMSON, MARKETS AND HIERARCHIES, *supra* note 23.

54. *Id.* at 26 (quoting ERVING GOFFMAN, STRATEGIC INTERACTION 105 (1969) (internal quotation marks omitted)).

55. *Id.* at 27. By referring to stochastic market circumstances for bilateral monopolists Williamson is placing such contests within the structural assumptions of game theory. The parties are pitted against one another and the outcome of their contest is relatively unpredictable, unless one resorts to notions of comparative bargaining power. Power aside, Williamson points out that alternative governance structures are more economical if they relieve the parties of the transaction costs that arise. Remedies take the form of alternative feasible governance structures that allow parties to avoid altogether the

The attribute of transactions that is most interesting to this Article is also the attribute most interesting to Williamson: assets specific to the transaction that place parties in a position particularly prone to contractual hazards.

D. Assets Specific to the Transaction

Williamson takes particular interest in hazards hypothesized to arise when parties to a transaction become bilaterally dependent. In defining the attributes of transactions, one key factor he identifies is "asset specificity," a term for assets specific to the transaction, defined as

> specialized physical assets (such as a die for stamping out distinctive metal shapes), specialized human assets (that arise from firm-specific training or learning by doing), site specificity (specialization by proximity), dedicated assets (large discrete investments made in expectation of continuing business, the premature termination of which business would result in product being sold at distress prices) or brand-name capital.[56]

To be sure, asset specificity is not the only factor implicated in bilateral dependent relations. Transactions also vary for the frequency with which they occur and the types of disturbances to which they are subject.[57] Asset specificity is believed to give rise to bilateral dependency because, when assets are specific to the transaction, buyers find it cost-prohibitive to turn to alternative sources of supply, and sellers cannot redeploy the same assets to alternative uses or users without incurring a loss in value.[58] Transaction cost economics thus predicts rising costs from the

circumstances of bilateral monopoly, or to anticipate and safeguard against empirically observed patterns of ex post maladaptation.

56. Williamson, *supra* note 28, at 176.

57. *See id.* at 175.

58. *See id.* at 176. Investments made in specialized assets with appropriable quasi-rents give rise to opportunistic behavior by the current trading partner, who will appropriate quasi-rents unless relieved by vertical integration or any long-term contract that gives the parties joint ownership of the specialized assets. Quasi-rent may be the value of the asset to one partner above and beyond the value to others, or the cost of moving the asset or switching in trade from one partner to another. When the asset is specialized to a particular user monopoly or monopsony market power, or both—bilateral dependency, perhaps bilateral monopoly—is created. *See generally* Benjamin Klein, Robert G. Crawford & Armen A. Alchian, *Vertical Integration, Appropriable Rents, and the Competitive Contracting Process*, 21 J.L. & ECON. 297 (1978) (explaining why investments made in specialized assets with appropriable quasi-rents give rise to opportunistic behavior by the current trading partner).

contractual hazards that accrue, unless relieved by incentives, administrative controls, or other safeguards.[59]

Bilateral dependency suggests that parties to an exchange may not find it easy to exit their agreement. It does not matter how easy it was to enter the agreement. Nor does the presence of ex ante competition matter (although competition may still affect the price of exchange). When parties exchange something unique to one of them, or construct something of value during the exchange that would be lost in the transition to a different trading partner, those parties are in a bilaterally dependent trading relationship. Bilateral dependence situates the parties for intensive, self-interested bargaining against one another for maximum gain over incremental ex post change. The greater the value to both parties of the asset specific to the exchange, the more the pairwise identity of the parties matters.[60] These are the conditions that define bilateral monopoly for each consumer in continuous transactions with an SNS. These are also the conditions that make the bargaining power of each party relevant for predicting the outcome of the exchange. In these circumstances Williamson suggests "[o]rganiz[ing] transactions so as to economize on bounded rationality while simultaneously safeguarding them against the hazards of opportunism."[61]

The next Part of this Article explores the attributes of transactions for personal information and the complications these transactions create for consumers of online SNSs, who may or may not realize the bilateral dependent nature of their exchange.

II. PERSONAL INFORMATION

What is personal information? Consumers often frame data as including a property interest: *my* personal information. But the reality is much more complex. Information about a consumer is not always created by or chosen by the consumer. Personal information includes information bestowed upon a person by another (e.g., family name) and the products of societal determinations about a person (such as reputations or credit scores). Marketers and SNSs are interested in identifying information and societal determinations and they are also concerned about personal information that consumers express, such as preference and choice information that indicates a desire for products or certain interests. Actions taken by consumers can

59. Williamson, *supra* note 28, at 180.
60. *See* WILLIAMSON, *supra* note 2, at 30, 32; Williamson, *supra* note 9, at 282.
61. WILLIAMSON, *supra* note 2, at 32.

sometimes signal latent preferences that differ from actual statements consumers have made.

Personal identifying information can give people the means in the virtual world to find people in the offline world. Information that identifies consumers can be brief and practical, or quite intangible and reflexive. One's place of residence and employment, full legal name, social security number, and license plate number fit in the brief and practical category, as do any photographic images that others may use to pick individuals out of a crowd in time and space. Examples of intangible and reflexive identifying information include a person's family names and social circles, or the activities that have formed a central part of their social identity. One could become known for playing a particular sport, spending a good deal of time and effort to purchase or cook a type of food, or devoting one's employment or education toward a particular occupation, for instance. Nicknames could have the same effect, and nicknames are not always chosen or preferred by the people receiving them.

As some of the abovementioned examples suggest, personal information is also the product of choices made by consumers. Choices made by consumers are, quite literally, all the things consumers do in time and space, in associations and actions. Choices made by consumers are the "who, what, where, when, why, and how" of life. They are life as people live it.

The sum total of one's personal information is created once, in the continuous stream of a person's lifetime, and it is not recreated. It may be retold or copied, but it is only created once. As a collection of information about a person, it has value for SNSs, but it is also unique to each person. As such, it is perhaps more heterogeneous and specialized than any of the items for trade historically envisioned by Williamson or others as they contemplated the kinds of assets that would lead transacting parties toward bilateral dependent trading relations.

A. Unpacking Privacy

In economic terms, it is helpful to think of the choices that would be available to consumers of SNSs if this information were private or otherwise highly controlled by the consumer. In such a state, individuals could control the ability to reveal information and, in doing so, govern the flow of value from the information. Individuals currently have some ability to control information shared in social situations offline, among friends and family. Individuals are able to govern the flow of value from this information, for instance, in the

types of exchanges necessary to foster intimacy. Social norms governing such revelations are known, and revoking friendship or intimacy can help deter transgressive uses of this information. Furthermore, governance structures exist in society and polity to deter the opportunism that leads to many types of harm in social relations.

From the economic point of view, the ability to govern the flow of value from personal information would concern any and all transfers or transformations of the data that result in monetary gains. In the commercial context, a surprising amount of personal information is public, in the sense that it is present somewhere in a public record[62] or is currently beyond the control of the individuals it represents.[63] Others can—and do—govern the flow of value from this information.

Economic analysis requires a bright line to discern ownership, possession, transfer, monitoring (and related forms of control), monetizing, and destruction or deletion of assets, even when these assets consist of bits and bytes of personal information. The micro-analytics of transaction cost economics are meant to discover what each of the parties does and the cost consequences to each as the transaction transpires.[64] In this respect, the economic definition of personal information provided here draws attention to the fact that, though consumers may not always realize the extent to which their information has value or earns financial returns for organizations such as SNSs, this value is precisely what sets the economic terms of the transaction for both parties. Lack of knowledge suggests information asymmetry and bounded rationality, but it does not alleviate either party from the economic consequences of ex post maladaptation.

The recent history of governance of personal information across data networks demonstrates the profound effect that firms driven by high-powered incentives have on the ability of consumers to control

62. *See, e.g.*, Daniel J. Solove, *Access and Aggregation: Privacy, Public Records, and the Constitution*, 86 MINN. L. REV. 1137, 1149 (2002) ("For a long time, private sector companies have relied upon public records to obtain personal information about individuals for marketing purposes.").

63. This is vividly illustrated by the NextMark "Mailing List Finder," which purports to offer more than 60,000 lists of personal information about individuals for sale. *Mailing List Finder*, NEXTMARK.COM, http://lists.nextmark.com/ (last visited May 7, 2012).

64. For a transaction cost accounting of brick-and-mortar projects as they transpire, see Jan Whittington, *How Should We Evaluate Public-Private Partnerships?*, J. AM. PLAN. ASS'N (forthcoming 2012) (manuscript at 9–19) (on file with the North Carolina Law Review).

their data and the significance of the challenge faced thus far by those interested in protecting the consumer's right to do so. Two generations of entrepreneurs have attempted to create structures giving consumers control over personal information and, thus, the ability to alienate it for compensation in a controlled environment. Law professor Scott Peppet has labeled these companies "privacy trustees" and described the challenges that such businesses face.[65] The first generation of these companies launched in the 1990s but quickly failed.[66] A second generation has emerged, represented by the Personal Data Ecosystem,[67] that attempts to give consumers tools to manage information about themselves. If these models are successful, consumers will be able to control access to information about themselves and about their choices, and derive some direct benefit from sharing this data with marketers.

Bethany Leickly explains the various economic reasons for the failure of these models.[68] But this Article argues that even if the economics of these models were sound, the models would fail precisely because the diffusion of personal information in the marketplace makes it possible for marketers to obtain personal information from other sources with fewer restrictions on its use.[69] Because data are public—sometimes in the sense that the data are in public records—information buyers are free to go to lower cost

65. Scott Peppet, *The Promise of Even Stronger Internet Intermediaries?*, CONCURRING OPINIONS (Nov. 14, 2010, 11:02 AM), http://www.concurringopinions.com /archives/2010/11/the-promise-of-even-stronger-internet-intermediaries.html#more-36331 ("To succeed, Privacy Trustees must have several characteristics. They must be trusted by both sides of the transaction. They must be able to hold the information in confidence and protect it from attack (either technological attack such as hacking or legal attack such as subpoena). They must be able to efficiently process the criteria of data users (e.g., the bank) and run comparisons against their data sets. They must have legal obligations to keep the data secure, as well as obligations to honor the wishes of those on both sides of the transaction (the data-providing consumer and the data-using firm, for example).").

66. For case studies of these companies, see Bethany L. Leickly, Intermediaries in Information Economies (Apr. 30, 2004) (unpublished M.A. thesis, Georgetown University), *available at* http://extrafancy.net/bethany/chapter5.php.

67. *See* PERS. DATA ECOSYSTEM CONSORTIUM, http://personaldataecosystem.org/ (last visited May 7, 2012).

68. *See* Leickly, *supra* note 66.

69. *See id.* ("[I]nfomediaries overestimated their ability to reduce privacy concerns in e-commerce. They failed to take into account the fact that consumers desired a perceived level of control over their own personal information, and that entrusting that information to an infomediary did not equate with control. This problem suggests that infomediaries cannot resolve uncertainties relating to information privacy.").

(lower in price and in privacy restrictions) alternatives, such as data brokers, in order to obtain targeting information on consumers.[70]

B. The Asset Specificity of Personal Information

Williamson's research identified assets specific to many kinds of transactions in the offline world. Though online markets are similar in structure, online markets also have features that are rarely observed in the offline world. And although transactions with tangible products have structural features in common with transactions for personal information, the most critical features for our analysis may be those that differ from their physical counterparts. To discern the features that are meaningful for ex post maladaptation in exchanges between consumers and SNSs, this Article integrates some well-known economic attributes of digital information elaborated by Hal Varian[71] into Williamson's transaction cost economic framework.

Just like software transferred from Microsoft or Adobe to a consumer online, or the segments of Linux and Wikipedia contributed by an ever-growing number of people, bits and bytes of personal information flow at near instantaneous speed from the consumer to the SNS. Varian invokes the history of technology to explain that the ease with which digital information can be combined, recombined, transferred, and reconfigured allows for a pace of innovation that is striking when compared to its mechanical or electrical predecessors.[72] The ease of flow increases the potential for transfer from consumers to SNSs, and from SNSs to other organizations, and, potentially, back to consumers in forms they may

70. Consider the scope of just one product from one major information broker—Experian Information Solutions:

> ConsumerView℠ Database: Reach more than 235 million consumers in more than 113 million households. Our complete coverage allows you to demographically segment your direct-marketing list to reach the best prospects for your products and services. Target by age, gender, estimated income, marital status, dwelling type and more. The vast quantity of names on this database and its varied selection capabilities make this one of the largest and most flexible databases on the market today. Reach niche markets from children to grandparents, mobile homes to mansions, and metropolitan areas to rural areas. No matter whom you are marketing to, the ConsumerView℠ database can provide profitable leads.

Direct-Marketing Lists, EXPERIAN, http://www.experian.com/dataselect/ds-direct-marketing-lists.html (last visited May 7, 2012).

71. *See generally* Hal R. Varian, *Competition and Market Power*, *in* THE ECONOMICS OF INFORMATION TECHNOLOGY 1 (2004) (outlining the basic economics of information technology industries).

72. *See id.* at 5–9.

or may not welcome. It increases the marketability of the information (i.e., endless combinations and continuously creative means to mine for them), and, thus, the motivation for SNSs to loosely define, alter ex post, or breach terms of service agreements with consumers. It also increases the chance that parties to such transactions will be unable to monitor anything more than the initial transfer of data. Much of this is made possible by the fact that digital data is incredibly persistent. Digital information—with today's technology—is both easy to generate and transfer, and very difficult to delete or destroy.

It is difficult to refute the claim that personal information is an asset specific to each consumer and, by extension, specific to transactions each consumer makes with that information. Transaction cost economics holds that asset specificity, in the presence of any reason for ex post haggling or dispute, would drive up the cost of transacting, even if the asset is only specific to one of the parties.[73] Generally, the party that lacks alternative trading partners—in our case, the consumer—is more likely to bear these transaction costs. In online markets, these costs can take many forms that are, in our current regulatory environment, practically impossible for consumers to trace. Like friction in a machine, they exist and present, in aggregate, a drag on the economy.[74]

Is it conceivable, though, that an SNS would find personal information from each of its consumers to be as specific an asset as it is to the consumer? Understanding why this may be so requires an appeal to logic, as well as the economics of the business model and practices of the SNS.

73. Examples include models of hostage or hold up, where the sole supplier of a product holds the production process up or holds the product hostage until the buyer pays additional, unanticipated ex post costs. In the case of consumers of SNSs, after the consumer has provided personal information it is the SNS that has the upper hand or incentive to behave opportunistically by either using the information in breach of the terms of service or changing the terms of service to support the newly intended use of the information. In either case, the SNS places the burden of discovery of the ex post change on the consumer.

74. Such costs include, but are not limited to, consumer targeting for activities less benign than marketing, increased instances of identity theft, and other cybercrimes. Costs can also take a more nuanced form, yet still represent drags on the economy if they reflect any difference between the perception consumers have of the cost of transacting and the changes in prices they experience after sharing their personal information, as can occur if one's insurance rates change, for instance. In aggregate, the drag on the economy could take the form of redistributions of wealth that are less than desirable and, should consumer awareness grow, consumers may eventually respond by shedding the perception that online services are convenient or advantageous.

Logically, if one's personal information is unique, then the firm cannot detach this information from the person it identifies without a loss in value. Whether SNSs sell personal information or de-identify and aggregate that information, what they offer is the promise of access to each person the information identifies. Advertisers and video game developers and distributers, like many firms paying Facebook on the basis of the personal information the firm has obtained, pay Facebook because they are interested in gaining access to the real consumers presumably tied to this information. There is a one-to-one correlation for every consumer as a person, every personal profile generated by and for the consumer in a transaction with Facebook, and every consumer the advertiser or video game firm pays to reach. In the absence of other assets significant to capitalization, the promise of access to each and every consumer of an SNS becomes the basis of capitalization. Thus the firm accumulates consumers to accumulate revenue, though not in an orthodox economic sense. Instead of creating and accumulating products that consumers demand, the business model of the SNS is to accumulate consumers to create demand.[75] The consumers are the products, they help create the products with each bit of information they add that deepens their profile,[76] and the SNSs encourage both to stimulate demand from third parties for access to these consumers.

If this logic holds, then personal information constitutes an asset of specific value to both the consumer and the SNS, leading both parties to bilateral dependence in trade. The consumer experiences a loss in value from personal information when an SNS behaves opportunistically with the consumer's personal information, and the SNS experiences a loss in value from the consumer's personal information when the consumer stops providing it to the SNS, or

75. This economic model is perhaps more familiar to planners and urban economists because it bears closest resemblance to the agglomeration economies of cities, which grow in breadth and depth with the expansion of firms and labor forces that are both diversified and specialized. Envision consumers of any given SNS as the local residents and labor pool of the SNS. The SNS is, by analogy, the ruler of the city, enticing firms to locate within their jurisdiction and levying taxes on each firm that takes up residence. For a general treatment of agglomeration and related concepts, see generally ARTHUR O'SULLIVAN, URBAN ECONOMICS (7th ed. 2009).

76. *See, e.g.*, SHAPIRO & VARIAN, *supra* note 46, at 33 (comparing comparative bulk versus targeted ad rates for web search engines). Note also that consumers spend time to deepen their profile online, and each increment of time and activity contributes to the probability that both the consumer and the SNS will experience the cost of ex post maladaptation. Generally, this time and activity removes the parties further and further from ideal conceptions of discrete transactions, toward relational conceptions where bargaining power matters.

when the SNS is otherwise denied the ability to continue to extract rents from third parties on the basis of the personal information.

C. Bilateral Dependence with Personal Information

Bilateral dependence suggests that the SNS is dependent on the personal information consumers provide.[77] Setting aside, for the moment, the notion of a one-to-one correlation between the consumer and the capitalization of the SNS on the basis of personal information, is there any other reason to believe that consumers and SNSs are engaged in bilateral dependent trading relations? This is a two-pronged question: (1) Is there reason to believe that online SNS markets have a tendency toward small numbers?; and (2) Does the survival of online SNS firms depend on recurring transactions with their consumers? The economics that underlie the business models of online SNSs indicate that both conditions are present.

Online SNS platforms, like other forms of software, share the unusual distinction in economics of generating increasing returns to scale.[78] This is a very old concept in economics, though one that has not been given the attention it deserves. Most economic models of production presume decreasing returns to scale because producers find that as they grow their operations to serve more and more customers, they eventually experience increasing costs as they try to serve each additional customer.[79] Competition can keep prices down, but even with imperfect competition firms are presumed to eventually experience decreasing willingness or ability to pay from additional customers. Thus, as scale increases, firms pay more for inputs and receive less for their output, a condition also known as increasing long-run average cost.[80] With increasing returns, however, the firm enjoys more returns for each additional customer served. The bigger

77. Bilateral monopoly will occur if both the consumer and the SNS lack alternative trading partners for the same information.

78. *See* Varian, *supra* note 71, at 3 (noting that increasing returns to scale are synonymous with constant fixed costs and zero marginal costs, which Varian describes as the "baseline case" in information goods).

79. PAUL KRUGMAN, ROBIN WELLS & MARTHA L. OLNEY, ESSENTIALS OF ECONOMICS 180 (1st ed. 2007) ("Diseconomies of scale . . . typically arise in large firms due to problems of coordination and communication: as the firm grows in size, it becomes ever more difficult and therefore costly to communicate and organize its activities. While economies of scale induce firms to get larger, diseconomies of scale tend to limit their size."); Varian, *supra* note 71, at 3 ("[T]here are capacity constraints in nearly every production process.").

80. KRUGMAN, ET AL., *supra* note 79, at 180 ("There are diseconomies of scale when long-run average total cost increases as output increases.").

the customer base, the greater the gap between the cost of serving them and the revenues earned by serving them—either because costs at the margin decline in the long run, or because revenues at the margin grow, or both.

When the asset of value is information and the business platform is the online environment of networked information technologies, the average cost of serving customers declines in the long run.[81] Moore's Law denotes the industry-wide trend of declining size of semiconductor chips and with it computing speed or power and the cost of storing information.[82] Computers have nearly eliminated the cost of copying information. How much firms actually spend on inputs—such as labor, software, computers, servers, and other networked devices—is a matter internal to firms, but if declining long-run average costs are possible and they are coupled with demand side economies of scale—also known as network effects—the economies of scale are exhibited industry wide. In other words, firms in industries with increasing returns and network effects tend toward a small number of competitors.[83]

SNSs experience declining long- and short-run average costs when the personal information they rely on for revenue is generated or, more specifically, digitized by the consumer. Information is costly to produce and cheap to reproduce. Microsoft, for example, spends a great deal to produce new versions of its Office Suite, which includes the popular programs Word and Excel. The reproduction of these products is a tiny fraction of expenditures.[84] In SNS business models,

81. *See* Varian, *supra* note 71, at 25 (discussing supply-side economies of scale).

82. *See* Gordon E. Moore, *Cramming More Components onto Integrated Circuits*, ELECTRONICS MAG., Apr. 19, 1965, at 114, 117, *available at* www.cs.utexas.edu/~fussell/courses/cs352h/papers/moore.pdf.

83. *See* Varian, *supra* note 71, at 12 ("[H]igh-fixed-cost, low-marginal-cost technologies . . . lead to significant market power, with the usual inefficiencies.").

84. *See* United States v. Microsoft Corp., 65 F. Supp. 2d 1, 11 (D.D.C. 1999) ("Software development is characterized by substantial economies of scale. The fixed costs of producing software, including applications, is very high. By contrast, marginal costs are very low."); Patrick K. Bobko, Open-Source Software and the Demise of Copyright, 27 RUTGERS COMPUTER & TECH. L.J. 51, 61 n.61 (2001) ("Although the total cost of developing Microsoft Office is, at best, an estimate, the research and development expense for the project between June 1987 and June 1989 was $218 million."). For an explanation of the case of operating system software, which share the cost curves of applications, see Andrew Torre, *The Traditional Economic Approach to Measuring Economic Profit*, *Appendix* to KEN STANDFIELD, INTANGIBLE MANAGEMENT: TOOLS FOR SOLVING THE ACCOUNTING AND MANAGEMENT CRISIS 247, 250 (2002) ("The great majority of Microsoft's costs in producing software are fixed. These consist of the operating system software's share of the salaries and research and development effort of the knowledge workers, and the cost of the computers, other specialized equipment, and

except for the software generated to house, reconfigure, and sell the data, it is the consumers who exert most of the labor to enter the data of value onto their computers and into the servers possessed by the SNS. In online information economies, there is no natural limit or capacity at which the number of customers causes per unit cost of production to increase.

Furthermore, network effects create demand side economies that raise the earning potential of SNSs per consumer *and in aggregate*. Consumers already understand that the more people with social ties join a particular SNS, the more pressure other people experience to join the same SNS. But these effects explain only part of the economic model of SNSs—they suggest demand but do not link demand to revenue for the SNS. In terms of revenue, as each consumer provides more personal information, the monetary value of access to that consumer increases for the SNS. The greater the ability of the SNS to target consumers for advertisers, the greater the premium advertisers are willing to pay because the act of targeting increases the advertiser's chance of reaching the consumers most likely to try the advertised product. Furthermore, as the size of the population of consumers of any SNS grows, so does the intrinsic diversity of and size of the market for advertisers and other third parties. The more diverse the population, the greater the number of firms with specialized products interested in access to the population. And, of course, the greater the size of the population, the more third parties flock to SNSs. This is the case for online advertising, video games, or any other application developed by third parties and launched on or distributed through an SNS.[85] This means that the size of the market of third parties willing to pay the SNS for access to consumers is a function of the overall number of consumers and the amount of time each consumer spends adding to the SNS's

the premises. Total fixed costs are independent of the number of Windows disks Microsoft manufactures. However, as more Windows disks are replicated and sold, average or unit fixed costs fall, since a given total fixed cost is allocated over more and more Windows disks. This is why the average total cost curve . . . is declining. The cost of producing an extra Windows 2000 disk is very low compared with the unit or average total cost. This is typical of network industries whose cost structure typically consists of high fixed and joint costs and low marginal costs. A network is a collection of points or nodes that are connected to each other. Industries characterized by networks include telecommunications, electricity, water, gas, payment services, and computer software and hardware.").

85. The relationship, in general, between increasing returns, population size, specialization, and agglomeration economies is defined in James M. Buchanan, *The Return to Increasing Returns: An Introductory Summary*, *in* THE RETURN TO INCREASING RETURNS 1, 4–5 (James M. Buchanan & Yong J. Yoon eds., 1994).

accumulation of personal information. These positive feedback mechanisms give SNSs bandwagon effects and explain why the industry tends toward small numbers.

Increasing returns reinforce small numbers when online firms are able to lock in consumers by, for example, raising the cost of switching to alternative suppliers or increasing barriers to entry for other suppliers. Switching costs for consumers posed by SNSs include, for instance, the cost to learn the application, delete and regenerate data, the exclusive activities such as games available on the network, and the social relations established through the existing platform. Such costs mount as online firms, Facebook included, require that transactions online convert real dollars to an exclusive proprietary currency, such as Facebook dollars. Open source code and interoperability guard against switching costs and barriers to entry. However, even if alternative platforms exist, consumers expend effort to convince others in their social network to migrate to and from platforms, and this effort may go unrewarded. It takes effort to move populations from one bandwagon to another, the aggregate effort of consumers and firms persuading consumers.

If consumers face high switching costs, they can feel locked into agreements that may result in costs in excess of their ex ante expectations (or perhaps breach of contract).[86] How aware are consumers of the uses of their information by SNSs? If aware and dissatisfied, what recourse do they have? Does the personal nature of the information they gave to the SNS, along with other attributes noted above, render consumers locked into bilateral trading relations with SNSs? The next Part of this Article provides early empirical evidence that consumers are not uniformly pleased with SNSs, and that the cost of transacting can rise ex post, though the consumer currently bears much of that burden.

III. CONSUMER EXPECTATIONS AND REALITIES

A. Reality Check

Do consumers have the same expectation of behavior of SNS firms that transaction cost economics presents? Are consumers aware of the terms of trade, or breach of trade when it occurs? Do consumers control the flow of value from their personal information

86. *See* Varian, *supra* note 71, at 21 (discussing switching costs and lock-in).

once it passes to the SNS? Do consumers consider the fact that they may be entering into a bilateral dependent trade with the SNS?

B. Consumer Expectations of Privacy: The Privacy Resilient and the Privacy Vulnerable

Professor Alan Westin has long found that about half of Americans believe that "[m]ost businesses handle the personal information they collect about consumers in a proper and confidential way."[87] This suggests that consumers believe that their transactions are confidential, that is to say businesses cannot share details about consumers without their informed consent. Confidentiality represents a very high level of information privacy, one that assumes that disclosure harms the subject of the data even if the confidential fact is not embarrassing. However, consumers rarely enjoy actual confidentiality guarantees in ordinary information transactions, and indeed they do not have such protections with SNSs.

Research demonstrates that American consumers are profoundly naive about the rules that govern information transactions. For instance, a 2008 survey of Californians found that in six transaction contexts (pizza delivery, donations to charities, product warranties, product rebates, phone numbers collected at the register, and catalog sales), a majority either did not know or falsely believed that privacy laws required businesses to obtain affirmative consent from the consumer before selling information to third parties.[88] In 2009, this research was expanded to a national scope, finding that respondents on average answered only 1.5 of 5 questions surrounding online transactions correctly, and only 1.7 of 4 questions concerning offline privacy rules.[89]

This does not bode well for privacy protections in SNSs because understanding the rules of data collection is central to current self-regulatory rules. The current approach requires the consumer to

87. PONNURANGAM KUMARAGURU & LORRIE FAITH CRANOR, INST. FOR SOFTWARE RESEARCH INT'L, CARNEGIE MELLON UNIV., PRIVACY INDEXES: A SURVEY OF WESTIN'S STUDIES 13 (2005), *available at* http://reports-archive.adm.cs.cmu.edu/anon/isri2005/CMU-ISRI-05-138.pdf.

88. Chris Jay Hoofnagle & Jennifer King, Research Report: What Californians Understand About Privacy Offline 9–19 (May 15, 2008) (working paper), *available at* http://papers.ssrn.com/sol3/papers.cfm?abstract_id=1133075.

89. The online questions asked respondents whether privacy policies created legal obligations to refrain from disclosing personal information to third parties and the government, and to obtain permission before tracking consumers across websites. Joseph Turow et al., Americans Reject Tailored Advertising and Three Activities that Enable It 20–21 (Sept. 29, 2009) (working paper), *available at* http://ssrn.com/paper=1478214.

exercise self-help to protect privacy and to police the agreement ex post, thus the consumer must bear significant transaction costs to enroll in SNSs.

Analysis of the 2008 survey shows that those with high levels of privacy concern were much more likely to answer the knowledge-based questions correctly, while those that reported mid- or low-level concern did poorly.[90] This raises a question: What accounts for the relationship between low-level privacy concern and ignorance of privacy rules? It could be the case that those who are privacy apathetic simply do not take the effort to learn about privacy. Perhaps they are part of a privacy Know-Nothing movement—people who decide that they do not care about privacy as a value or are not willing to bother learning about it regardless of what the actual legal rules or business practices are. Or, it could be the case that these users' attitudes are unformed. Perhaps education about legal rules and business' uses of personal information could convert them into high-level privacy concern consumers.

Subsequent national survey research suggests the latter. Author Hoofnagle and colleagues asked consumers whether they were more or less concerned about privacy than they were five years earlier.[91] Those who reported higher concern (55%) were asked why they had heightened privacy concern. The most frequently cited reason (48%) for greater concern was "know[ing] more about privacy risks online."[92] Learning more about privacy risks clearly is a powerful reason for heightened concern. But so is "hav[ing] more to lose" (30%) and "hav[ing] an experience" (17%) that resulted in a change in attitudes.[93]

American consumers can be divided into two groups: the privacy resilient, those with higher privacy knowledge and a stronger likelihood to engage in self-help, and the privacy vulnerable, an incognoscenti with fundamentally misinformed views about privacy rules and a lower likelihood to take self-help measures.

Younger consumers, often portrayed as more savvy and knowledgeable about information economy business models, fall into the privacy-vulnerable category. These are the very consumers on the vanguard of adopting SNSs. In the 2009 national survey, 18-to-24-

90. Hoofnagle & King, *supra* note 88, at 23–25.

91. Chris Jay Hoofnagle et al., How Different Are Young Adults from Older Adults When It Comes to Information Privacy Attitudes and Policies? 15 (Apr. 14, 2010) (working paper), *available at* http://ssrn.com/abstract=1589864.

92. *Id*.

93. *Id*.

year-olds only answered 1.12 correct of 5 questions concerning online transactions compared to 1.61 for older cohorts ($p < 0.001$). The 18-to-24-year-olds were more likely to get none correct than the 25-to-34- and 35-to-44-year-olds ($p < 0.05$).[94]

C. Understanding the Terms of Trade

American consumers profoundly misunderstand the rules underlying these transactions; they do not understand the terms of trade. Furthermore, even highly motivated and sophisticated consumers face significant costs in negotiating privacy because businesses have incentives to obfuscate practices.

In the financial services context, consumers enjoy more certainty because of a 1990s innovation known as the "Schumer Box."[95] It requires a standardized, clear disclosure of the key terms governing certain financial transactions, and these terms are defined by regulation.[96] The Schumer Box shifts transaction costs to sellers of credit products—the party with the greatest incentives to obscure costs. It also reduces costs to consumers because it focuses the consumers' attention on the most important terms. Consumers thus need not become experts in financial services to identify these key terms. This information-forcing mandate allows consumers to compare terms of service across products and institutions, further reducing transaction costs and even reducing the probability of bilateral dependence and small numbers of competitors.

In the personal information transaction space, no similar tools are in place for consumers. Information-intensive businesses are extremely complex, and they have shifting revenue models. It is difficult for consumers to identify key issues, but even when they have, it is often impossible to determine what a company's position is on a given issue.

94. *Id*. at 17–19. Similarly, younger adults were more ignorant of the rules concerning offline privacy transactions. Eighteen to twenty-four-year-olds only answered 0.9 correctly compared to 1.8 for the other groups ($p < 0.001$). *Id*. Moreover, Scheffe tests note statistical significance compared to each of the other groups. *Id*. at 18. Young adults were more likely to answer no questions correctly than any other age group; conversely, they were less likely to answer three to four questions correctly than any other age group. *Id*.

95. *See* Fair Credit and Charge Card Disclosure Act of 1988, Pub. L. No. 100-583, § 2, 102 Stat. 2960–66 (1988).

96. 12 C.F.R. § 226.5 (2011).

In the late 1990s, the Platform for Privacy Preferences ("P3P") was developed to address these issues.[97] P3P was a framework for machine-readable privacy policies. Under it, companies could post a policy giving consumers clear, binary statements on privacy commitments.

But P3P failed precisely because it required a clear disclosure of privacy terms. Such disclosures heightened the risk of regulatory sanction because it is much easier to bring enforcement actions against companies that clearly state their practices. Lawyers advising high-tech companies chose instead to convey agreements through privacy policies that are subject to much more flexibility (i.e. vagueness) than the P3P language, which required binary statements of policy.

Privacy policies allow companies to impose transaction costs upon consumers in several ways. For instance, privacy policies are lengthy. A recent study showed that if consumers actually read them, it would come at a $781 billion opportunity cost.[98] A longitudinal study of privacy policies found that they are written above a high school reading level, that they are becoming more difficult to read, and that they are becoming longer (on average, 1,951 words each).[99] Thus, in considering ex ante search costs of consumers comparing different services, the consumer may have to read the equivalent of eight pages of materials per competitor just to evaluate privacy issues.[100]

That time-intensive investigation may be futile. Market approaches to privacy are complicated by vague language in privacy policies, a lack of defined terms, and consumer unfamiliarity with privacy risks. Having spent time reading a privacy policy, the consumer may still not discover critical terms, such as whether the company sells personal information to third parties. Many privacy policies use vague, innocuous-sounding terms to mask third-party information sharing. For instance, retailer Ann Taylor's website claims that it does not share information with third parties, but then

97. *Platform for Privacy Preferences (P3P) Project*, WORLD WIDE WEB CONSORTIUM, http://www.w3.org/P3P/ (last updated Nov. 20, 2007, 1:01 PM); *see also P3P Guiding Principles*, WORLD WIDE WEB CONSORTIUM (July 21, 1998), http://www.w3.org /TR/1998/NOTE-P3P10-principles (setting out the guiding principles of the P3P and including suggestions for users and service providers).

98. *See* Aleecia M. McDonald & Lorrie Faith Cranor, *The Cost of Reading Privacy Policies*, 4 I/S: J.L. & POL'Y FOR INFO. SOC'Y 543, 564 (2008).

99. George R. Milne, Mary J. Culnan & Henry Greene, *A Longitudinal Assessment of Online Privacy Notice Readability*, 25 J. PUB. POL'Y & MARKETING 238, 243 (2006).

100. *Id.*

states that it shares information with "specially chosen marketing partners."[101] Presumably, these "partners" are not joint ventures in a legal sense, but rather arms-length relationships with third parties. Sometimes privacy policies are contradictory, starting with strong guarantees against information sharing that are later taken back with more liberal sharing language.[102]

D. Controlling the Flow of Value

Even if privacy policy language is clear and employs terms consistent with consumers' common understanding, consumers may not spot special risks present in personal information transactions. Much consumer attention is focused upon third-party information sharing. Consumers clearly are concerned about that practice, even if they are mistaken about the rules that govern the companies they transact with directly, such as SNSs. Few consumers perceive the converse problem—the existence and practices of companies that buy

101. *ANNTAYLOR.COM Privacy & Security Statement*, ANN TAYLOR (July 1, 2010), http://www.anntaylor.com/ann/custserv/custserv.jsp?pageName=Privacy&slotId=AT_CustServ_Center_Priv_Main_HTML ("To respect your privacy, Ann Taylor will not sell or rent the personal information you provide to us online to any third party. . . . In addition, Ann Taylor may share information that our clients provide with specially chosen marketing partners.").

102. Consider SmartMoney.com's privacy policy, which, until recently, claimed that the company did not engage in any third-party information sharing. Now (because of a California law mandate) it discloses data sharing to companies that sell goods and services that Smartmoney.com believes would be of interest to the customer:

> SmartMoney will not sell, share or otherwise disclose any personally identifiable information about our current or former web site users to third party companies or individuals, except as permitted or required by law.
>
> [. . .]
>
> From time to time we may make our customer lists available to companies that sell goods and services that we believe would be of interest. Customers have the option of having their names and identifying information removed from those lists (subject to certain exceptions and limitations in applicable laws) by contacting us at support@smartmoney.com.
>
> We may also from time to time make our customer lists available for direct marketing purposes to other entities that are affiliated with us. If you would like to be removed from those lists, contact us at support@smartmoney.com.

Privacy Policy, SMARTMONEY, http://web.archive.org/web/20100215032013/http://www.smartmoney.com/policies/?story=privacy (last updated June 2, 2008) (retrieved from internet archive).

the personal information. These practices are called "appended data"[103] or creating an "enhanced list."[104]

Enhancement is an important practice because it circumvents a key aspect of privacy self-help: selective revelation. Advocates of market-based approaches to privacy have long argued that "trust" is an essential aspect of privacy protection.[105] Thus, the user "trusts" certain websites and shares only the amount of information that she is comfortable revealing in that context. A problem relates to the consumer who does not trust the site and provides fake information.[106] When SNSs and other websites enhance registration data, selective revelation is no longer a workable strategy to protect privacy. Sharing any information—even fake information—could enable one website to match up cookies and discover real information that the user "trusted" to some other site. This risk is amplified where users are encouraged to authenticate in order to use a website's services.

Information-intensive companies have incentives to mask certain practices. This increases consumers' transaction costs and further obscures the true "price" of the transaction. For instance, gag clauses are commonly used among data companies so that buyers of personal information used to target consumers are restrained from telling consumers the provenance of the data.

Database companies prohibit their clients from telling consumers how data were acquired, what data were acquired, and the categories in which the consumer has been placed. One standard contract of a data broker requires that direct marketing to consumers "(i) shall not

103. Arthur Middleton Hughes, *Glossary of Direct Marketing Terms*, DATABASE MARKETING INST., http://www.dbmarketing.com/articles/Art143.htm (last visited May 7, 2012) (defining "appended data" as a "process whereby a customer file has data appended to it (such as age, income, home value) from some external data file").

104. *Marketing Glossary*, NEXTMARK, http://www.nextmark.com/resources/glossary-term/?term=enhanced+list (last visited Apr. 17, 2012) ("An enhanced list is a mailing list that has been appended with additional demographic, psychographic, behavioral, or attitudinal data.").

105. Samantha Lim, *It's All About Trust: Fran Maier Discusses Privacy on CredLIVE*, D&B CREDIBILITY INSIGHTS (Oct. 1, 2011, 1:21 AM), http://blog.dandb.com/2011/10/01/its-all-about-trust-fran-maiers-discusses-privacy-on-credlive/.

106. It is worth noting that trust is not an operable term in the transaction cost economic setup presented here. Trust is a rather elusive term if the aim of research is to account for and compare costs. *See* WILLIAMSON, MECHANISMS OF GOVERNANCE, *supra* note 23, at 256 ("[T]ransaction cost economics refers to contractual safeguards, or their absence, rather than trust, or its absence. . . . [I]t is redundant at best and can be misleading to use the term 'trust' to describe commercial exchange for which cost-effective safeguards have been devised in support of more efficient exchange.").

disclose the source of the recipient's name and address; (ii) shall not contain any indication that Client or Client's customers possess any information about the recipient other than name and address."[107] Gag clauses prevent transparency and frustrate self-help remedies. They may require an SNS to omit material privacy facts in representations to consumers.

Consistent with the gag clause approach, as practices have become controversial, the data industry responds by hiding them. For instance in the 1990s, one aspect of list-selling received negative attention—selling marketing lists of children. To demonstrate the problem, Kyra Phillips, then working for CBS affiliate KCBS-TV in Los Angeles, purchased personal information on 5,500 children from Metromail.[108] Phillips used the name of a notorious child-killer suspect to purchase the children's contact information.[109] Instead of increasing transparency or creating consent rules around the sale of such information, the industry reacted to this problem by renaming the lists. Today, one can still buy lists of children, but they are marketed instead as "families with children" or "single women with children."[110]

The sophistication of data products also makes it simple for companies to mask the ways in which they can identify consumers. For years in the offline world, cashiers would ask consumers for their phone number. Phone numbers are unique, and reverse directories can easily link an individual and their home address to the requested phone number. Eventually consumers became savvy to this, and some started refusing to provide a number. So the data industry developed tools that could identify a consumer from the zip code.[111] Acxiom

107. NEW CUSTOMER TERMS, CENTRAL ADDRESS SYSTEMS, INC. 1 (2011), *available at* www.cas-online.com/DATACARDS/customerterms.pdf.

108. Gary Chapman, *Protecting Children Online Is Society's Herculean Mission*, L.A. TIMES, June 24, 1996, at D14, *available at* http://articles.latimes.com/1996-06-24/business/fi-18095_1_children-online.

109. *Largest Database Marketing Firm Sends Phone Numbers, Addresses of 5,000 Families with Kids to TV Reporter Using Name of Child Killer*, BUS. WIRE (May 13, 1996), http://epic.org/privacy/kids/KCBS_News.html.

110. *See DRG - Families with Children Mailing List*, MAILING LIST FINDER, http://lists.nextmark.com/market?page=order/online/datacard&id=261796 (last visited May 7, 2012); *SINGLES - SINGLE WOMEN WITH CHILDREN Mailing List*, MAILING LIST FINDER, http://lists.nextmark.com/market?page=order/online/datacard&id=312698 (last visited May 7, 2012).

111. *See, e.g.*, Pineda v. Williams-Sonoma Stores, Inc., 246 P.3d 612, 615 (Cal. 2011) ("Plaintiff visited one of defendant's California stores and selected an item for purchase. She then went to the cashier to pay for the item with her credit card. The cashier asked plaintiff for her ZIP code and, believing she was required to provide the requested information to complete the transaction, plaintiff provided it. The cashier entered

markets a product to accomplish this linkage, and it is explicitly marketed as a tool to identify consumers without them realizing the privacy implications of providing a zip code.[112]

Consumers do not understand the bounds of a personal information transaction. Thus, at a basic level, they do not understand the economic basis of the transaction or the lengths that firms travel to prevent them from doing so. If they did, the market value of SNS firms would change.

E. Bilateral Dependent Trading Relations

There are simple questions consumers can ask to know if they are entering a bilateral dependent trading relation. Can they substitute another trading partner for this one to get the same (or very similar) service at an affordable price? If they want to exit the current agreement, can they do so easily (can they click and exit)? The persistence of data makes it potentially subject to an infinite set of contracts. If consumers want to exit, they may also want to take their personal information back. If consumers ended the trading relationship, would they then be able to recover their assets, such that their trading partner (and any third party who contracted for that information) would have to relinquish their data and discontinue the flow of value? With our current structures of governance, when consumers anticipate a detrimental change in the relationship with an information service, it may be impossible to avoid the change or to withdraw from the relationship.

In the early 2000s, online advertisers agreed as a consortium to not connect data from offline transactions (such as in-store purchases) with online data.[113] Regulators were satisfied with this self-

plaintiff's ZIP code into the electronic cash register and then completed the transaction. At the end of the transaction, defendant had plaintiff's credit card number, name, and ZIP code recorded in its database.

Defendant subsequently used customized computer software to perform reverse searches from databases that contain millions of names, e-mail addresses, telephone numbers, and street addresses, and that are indexed in a manner resembling a reverse telephone book. The software matched plaintiff's name and ZIP code with plaintiff's previously undisclosed address, giving defendant the information, which it now maintains in its own database. Defendant uses its database to market products to customers and may also sell the information it has compiled to other businesses.").

112. INFOBASE® DATA FOR SHOPPER RECOGNITION, ACXIOM (2006), *available at* http://isapps.acxiom.com/AppFiles/Download18/AcxiomShopperRec-3262007115722.pdf (describing product that helps retailers avoid "losing customers who *feel* that you're invading their privacy") (emphasis added).

113. The reader will have to take the Authors' word on this, because the self-regulatory agreement, coordinated by the Network Advertising Institute ("NAI"), is not

regulatory plan, and consumers sophisticated enough to even perceive this risk might have had their concerns allayed. Now, new business models propose to do exactly what online advertisers promised not to do. For instance, the *Wall Street Journal* recently reported that

> [t]he two largest credit-card networks, Visa Inc. and MasterCard Inc., are pushing into a new business: using what they know about people's credit-card purchases for targeting them with ads online. . . . [A] holy grail would be to show, for instance, a weight-loss ad to a person who just swiped their card at a fast-food chain—then track whether that person bought the advertised products. Currently, Web ads generally are based on a person's online behavior but not information tied to his or her identity or activities in the brick-and-mortar world.[114]

This plan of Visa and Mastercard is possible because it involved companies that were not party to the consortium agreement. Thus consumers in the information economy must anticipate the actions of both the companies they do business with and disruptive business models that seek to disintermediate the very services that they have enrolled in.

Popular web services—including Amazon.com, eBay, and Yahoo!—have a long history of changing rules, typically to the detriment of users' privacy.[115] One of the best examples is drkoop.com, a medical website that baited consumers with the reputation of the former surgeon general and strong privacy guarantees against sharing data with third parties.[116] drkoop.com was an early form of SNS—users were "members" who created accounts in order to build community around health and certain conditions.

even online anymore. Author Hoofnagle has argued elsewhere that the NAI was a colossal failure, demonstrated by the fact that it could not even maintain an archive of its own policy documents online. *See generally* Chris Hoofnagle, *Can Self-Regulation for Online Behavioral Advertising Be Credible?*, 10 PRIVACY & SECURITY L. REP. 818 (2011) (arguing that self-regulatory groups provide just a facade of privacy and setting forth criteria for credible attempts at industry self-policing in privacy).

114. Emily Steel, *Using Credit Cards To Target Web Ads*, WALL ST. J., Oct. 25, 2011, at A1, *available at* http://online.wsj.com/article/SB10001424052970204002304576627030651339352.html.

115. Chris Jay Hoofnagle, *Consumer Privacy in the E-Commerce Marketplace 2002*, 3 ANN. INST. ON PRIVACY L. 1339, 1360 (2002), *available at* http://papers.ssrn.com/sol3/papers.cfm?abstract_id=494883.

116. Joanna Glasner, *Drkoop.com Joins Dot-Bomb Brigade*, WIRED (Dec. 18, 2001), http://www.wired.com/techbiz/media/news/2001/12/49200 ("As one of the first large healthcare sites to debut on the Web, Drkoop gained advantage from its association with the famed ex-surgeon general whose name it bears.").

After it went bankrupt, it sold its customer database to a "nutritional supplement" company.[117] In order to object, consumers had to opt-out.[118] This means that the consumer who signs up for a service—even just to try it for a day—must constantly monitor subsequent policy changes. As the drkoop.com example shows, these changes can be radical and can completely contradict the assumptions and explicit guarantees made at enrollment.

In the SNS context, shifting rules have dominated the news.[119] Facebook has engaged in so many changes in the publicity given to user data that it is best understood with a visualization. One popular site created by Matt McKeon shows how default rules governing personal information on Facebook have changed.[120] In 2005, no personal information from Facebook was available on the general Internet—only name, gender, network membership, and picture were available to other Facebook users by default. In multiple changes over five years, McKeon shows that now, all information on Facebook is available to the entire Internet by default, with the exception of date of birth and contact information.[121]

Facebook has followed a pattern of introducing changes to the service, invariably ones that make data more publicly available. Sometimes these changes result in user revolt, but Facebook manages to spin the situation such that profiles remain more open.[122] For instance, in creating the "instant personalization" service, which shares profile information with external websites, Facebook admitted that it overstepped and promised to make changes.[123] Tweaks to

117. *See* David Colker, *Drkoop.com Sold for $186,000 to Vitacost*, L.A. TIMES (July 16, 2002), http://articles.latimes.com/2002/jul/16/business/fi-drkoop16 (" 'Three years ago, Drkoop.com would not have given us the time of day,' Vitacost President Dr. Allen Josephs said Monday. 'Now we own them.' ").

118. Alorie Gilbert, *Is Drkoop Taking Care of Privacy?*, ZDNET (July 1, 2002, 8:05 PM), http://news.zdnet.com/2100-9595_22-123846.html.

119. *See, e.g.*, Dan Goodin, *Facebook Revamps Privacy Settings (Again)*, REGISTER (Aug. 23, 2011, 9:23 PM), http://www.theregister.co.uk/2011/08/23/facebook_privacy_controls/.

120. *See* Matt McKeon, *The Evolution of Privacy on Facebook*, MATTMCKEON.COM, http://www.mattmckeon.com/facebook-privacy/ (last updated May 19, 2010, 5:50 PM).

121. *Id.*; *see also* Kurt Opshal, *Facebook's Eroding Privacy Policy: A Timeline*, ELECTRONIC FRONTIER FOUND. (Apr. 28, 2010), https://www.eff.org/deeplinks/2010/04/facebook-timeline (highlighting modifications to Facebook users' privacy settings over a five-year period).

122. Chris Hoofnagle & Michael Zimmer, *How To Win Friends and Manipulate People*, HUFFINGTON POST (June 2, 2010, 7:44 PM), http://www.huffingtonpost.com/chris-jay-hoofnagle/how-to-win-friends-and-ma_b_598572.html.

123. Mark Zuckerberg, *From Facebook, Answering Privacy Concerns with New Settings*, WASH. POST (May 24, 2010), http://www.washingtonpost.com/wp-dyn/content

Facebook's privacy settings were announced, but instant personalization remained the default setting.[124]

The high-powered incentive to monetize the Facebook service and maintain a valuation at many billions of dollars competes with consumers' expectations surrounding privacy. In a real sense, users have to monitor policy changes after enrollment, and—at some expense—even take affirmative action to limit publicity given to personal information. For instance, with the recent innovation of Facebook Timeline, users were given a grace period in which they could object to having every status update, wall post, and photo posted from becoming easily searchable by others.[125]

Practically speaking, there is no exit for most users. The data that one shares with Facebook is available by default to the larger universe of the Internet, where bottom-feeding sites reassemble data shared and create profiles of individuals. There is no statutory right to delete or to port data to another service.

Even with an ability to take data to another service, some bandwagon would have to be triggered in order to make it a meaningful exit so that some alternative service had enough users to deliver a similar experience. Google+ has far stronger privacy design and practices than Facebook, yet it does not matter if all of one's friends are invested in a different network. The network effects of Facebook's 800 million members make it the main game in town.

For reasons explained above, it is extremely difficult to simply dump Facebook for a competitor. For most users, Facebook has become what Mark Zuckerberg said he intended the service to become: a utility.[126] Some can live off the grid, but most people are stuck with utilities. People rely upon them so much, in part because there is often no competition at all, that we create consumer protections to ensure good practices.

/article/2010/05/23/AR2010052303828.html.

124. Hoofnagle & Zimmer, *supra* note 122.

125. *See* Adrian Chen, *Facebook Will Now Shove the Horrid Past in Your Face*, GAWKER.COM (Sept. 22, 2011, 2:19 PM), http://gawker.com/5842963/facebook-will-now-shove-the-horrid-past-in-your-face; Samuel W. Lessin, *Tell Your Story with Timeline*, FACEBOOK BLOG (Sept. 22, 2011, 10:30 AM), http://blog.facebook.com/blog.php?post=10150289612087131.

126. *See* DAVID KIRKPATRICK, THE FACEBOOK EFFECT: THE INSIDE STORY OF THE COMPANY THAT IS CONNECTING THE WORLD 10 (2010).

IV. DELETION AND PORTABILITY AS A PARTIAL EXIT

Privacy law typically intervenes in several ways to address rights in personal information. Many of these interventions were developed in the days of the mainframe and reflect "institutional" privacy concerns.[127] These concerns apply to the entity that is collecting personal information, rather than peers such as parents and friends.[128] For instance, as early as 1970, the Fair Credit Reporting Act[129] created access rights,[130] correction rights,[131] and time limits concerning how long a consumer reporting agency could relate derogatory information about a consumer to creditors.[132]

Today's privacy challenges have evolved. Large, institutional data companies still collect information about consumers without their knowledge or consent. But with SNSs, consumers themselves are revealing information. Users have access to much of the data in SNSs, and users groom their profiles, correcting (or enhancing) inaccuracies and deleting (or de-tagging) the derogatory.[133] Mainframe-era privacy protections, built for situations where the user has no relationship to the data practices at all, seem inappropriate in the SNS context.

Traditionally, advocates of market approaches have suggested that consumer education is a powerful remedy for privacy problems. This Article shows, however, that SNSs and other web ventures cannot always foresee the ways in which they will employ personal information. For example, this Article examined the changeable situation of drkoop.com, which seemed to commit to a strong pro-privacy business model at its inception but later changed its policy. Recall that Facebook started as an exclusive club for college students at the Ivy League universities,[134] and now it is a "utility" for

127. Kate Raynes-Goldie, *Aliases, Creeping, and Wall Cleaning: Understanding Privacy in the Age of Facebook*, FIRST MONDAY (Jan. 2, 2010), http://firstmonday.org/htbin/cgiwrap/bin/ojs/index.php/fm/article/view/2775/2432.

128. *Id*.

129. *See* Pub. L. No. 91-508, 84 Stat. 1127 (1970) (codified as amended at 15 U.S.C. §§ 1681–1681x (2006 & Supp. IV 2010)) (requiring insured banks to maintain certain records and reporting practices).

130. § 609, 84 Stat. at 1131.

131. § 611, 84 Stat. at 1132.

132. § 605, 84 Stat. at 1129–30.

133. Raynes-Goldie, *supra* note 127.

134. *See* BEN MEZRICH, THE ACCIDENTAL BILLIONAIRES: THE FOUNDING OF FACEBOOK A TALE OF SEX, MONEY, GENIUS, AND BETRAYAL 119 (2009).

communications among the masses.[135] Educating consumers about these risks ex ante invites a series of challenges[136] and ultimately leaves them without a remedy if the risk comes to fruition. When risks are realized, the consumer needs reliable means to identify the source of the ex post maladaptation—the firm and the actions taken by the firm that led to the cost the consumer experienced. As this Article has shown, even if a user chooses a service that promises strong privacy controls, such guarantees may melt away ex post with shifting business models.

More modern interventions are necessary to address the scope of these problems, with the primary goal of correcting imbalances in negotiations over ex post maladaptation. One approach would be to give the individual an avenue of meaningful escape. Recall that consumer protection law in the United States gives individuals a three day "cooling off" period for certain kinds of high-pressure sales. Other sales, such as negative option plans where one party has incentives to create transaction costs around preventing cancellation, are also subject to specific consumer protections. In the SNS context, an imperfect yet helpful escape could take the form of portability and deletion options.[137] This would allow the consumer to extract information that she has revealed to the site for easy transfer to another service and a concomitant requirement of the old SNS to delete this information.[138] Portability and deletion are partial remedies because the burden of discovering ex post opportunistic behavior remains with the party least able to discover that behavior: the consumer. If the Schumer Box were applied to the case of monetization of personal information from consumers by SNSs, consumers would receive or access reports of trades or sales made with their information by the SNS. In the best of circumstances, the consumer would be able to react to the activities of the SNS per third-

135. Mark Zuckerberg has framed Facebook as a "utility," thus likening it to other platforms for communication, such as the telephone and email. *See* KIRKPATRICK, *supra* note 126, at 144.

136. The challenges include the following: Who will do the educating? Who will pay for it? What makes us think that the education will work? In the goal-directed activity of enrolling in a service, will consumers take a break to be educated about these problems?

137. At the time of this writing, a proposed consent decree concerning Facebook would require the company to delete information of users within thirty days of a member's request. Facebook, Inc., 76 Fed. Reg. 75,883, 75,884–85 (Dec. 5, 2011) (proposed consent agreement), *available at* http://ftc.gov/os/caselist/0923184/111129facebookagree.pdf.

138. We note that this solution does not address the many bottom-feeding websites that attempt to aggregate information from SNSs and other sites to create "lookup services" and the like. Optimally, SNSs themselves would police this problem and protect user information from these services.

party trade, per third-party trading partner, or per SNS. The last of these is possible when consumers are allowed the relatively simple act of exiting their agreements, taking their assets away to another trading partner.

CONCLUSION

This Article has presented a transaction cost economic framework for analyzing the exchange of private information among consumers, SNSs, and the third parties they use to monetize this property. As we hope to show in this and further studies of transactions with personal information, much of the interest resides in the hazards that accrue after the consumer enrolls in the service. In bilateral dependent trades, these hazards result in transaction costs borne by consumers, unless remedied by alternative structures of governance. Typically a consumer would simply exit an arrangement with a company that imposed such costs. But in the case of SNSs, there are strong incentives to mask practices and to change practices in order to monetize the platform. These shifts occur ex post in transactions with consumers, and though they can occur before a firm has achieved market dominance, they are just as likely to occur after, where network effects make it practically impossible for the consumer to switch without a loss in value, whether in the form of personal data, time, or relationships online.

Ronald Coase provides an economic rationale for intervening in transactions between two private parties. Coase realized that transactions are reciprocal[139] and therefore potentially subject to bargaining between parties, which should take place when "the increase in the value of production consequent upon the rearrangement is greater than the costs which would be involved in bringing it about."[140] The first half of his famous 1960 article, *The Problem of Social Cost*, illustrates the ways in which parties could potentially overcome disagreements without resorting to legal action. But if the parties to the transaction are not endowed with equal bargaining power, such gains may never be realized. The latter half of the Article shows that intervention is not costless, yet there may be a role for governments, because the cost of government intervention may prove to be less than the transaction cost it alleviates. The purpose of intervention would be to equalize bargaining power: to

139. *See* R.H. Coase, *The Problem of Social Cost*, 3 J.L. & ECON. 1, 2 (1960).
140. *Id.* at 15–16.

move parties closer to the agreement they would have formed on their own, if there were zero transaction costs.

As a practical matter, Coase believes the problem is one of figuring out, from "patient study of how, in practice, the market, firms and governments handle the problem," of the most appropriate institutional arrangements.[141] Because all solutions have production and transaction costs, the point is to "examine the effects of a proposed policy change and to attempt to decide whether the new situation would be, in total, better or worse than the original one."[142] Transactions of private information between consumers and SNSs are not costless if viewed through the lens of transaction cost economics. Preliminary evidence suggests that in cases of consumer losses of control over the flow of value from personal information, the costs of handling the transaction, for the benefit of society, just might be lessened by government action.

SNSs are new, yet the hazards they generate in ongoing contractual relations with personal information are not. Other industries have had to adjust, for the good of society, to terms of trade that restrict their activities and protect consumers, whether by ensuring the transparency of contractual terms, supporting the consumer's right to know the actions taken with their assets, or giving the consumer the ability to exit the agreement, whole. This Article encourages the use of transaction cost analysis to differentiate the current cost of ex post maladaptation from the costs that could accrue from policies imported from the regulatory apparatus of other networked infrastructures.

As presented in this Article, the privacy policies and design choices of many SNSs offer the consumer no exit from the relationship. The transaction costs these policies and choices raise for consumers, combined with the practices of information-intensive businesses, point to the need to balance consumer ex post bargaining power with that of the firm. Providing consumers a right to delete and a portability right could help address this imbalance.

The boundaries of a right to delete are still being formed, and in its strongest forms, such a right would suffer from First Amendment vulnerability.[143] But this Article suggests something simpler—not a right to delete what others have said about you, or the right to delete

141. *Id.* at 18.

142. *Id.* at 43.

143. *See* Jeffrey Rosen, *The Right To Be Forgotten*, 64 STAN L. REV. ONLINE 88 (Feb. 13, 2012), http://www.stanfordlawreview.org/online/privacy-paradox/right-to-be-forgotten.

a legitimate news article or public record. Instead, this Article suggests that the basis of the transaction—the data that the individual reveals to the site and the choices made by the individual—should be something that the individual can take away.