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A Place of Their Own: Crowds in the New Market for Equity Crowdfunding

Seth C. Oranburg[†]

Crowdsourcing's limits are determined by people's passion and imagination, which is to say, there aren't any limits at all.

– Jeff Howe

INTRODUCTION

Is small better than large? When it comes to normative business law policy, many seem to think so. Many scholars attribute the 2007–08 financial crisis to mis-regulation of large banks. Many others attribute the subsequent economic recovery to jobs created by small businesses. While the “99%” protested big banks on Wall Street, the “Startup America” grassroots campaign for small business garnered political support for corporate-finance legislation. Within a two-year period, Congress passed the JOBS Act¹—which tripled private company shareholder limits,² authorized federal equity crowdfunding,³ and created the “mini-IPO” Regulation A+⁴—and the Dodd-Frank Act⁵—which seeks to end “too big to fail” by imposing a multitude of requirements on large firms.⁶ In other words, policymakers seem to be trying to encourage the smallest firms while discouraging the biggest ones. But this policy decision seems to ignore the fact that all large firms were

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1. Jumpstart Our Business Startups Act, Pub. L. No. 112-106, 126 Stat. 306 (2011) [hereinafter “JOBS Act”]; Crowdfunding, 80 Fed. Reg. 71,388 (Nov. 16, 2015) (to be codified at 17 C.F.R. pts. 200, 227, 232, 239, 240, 249, 269, and 274).

2. JOBS Act, Title II.

3. JOBS Act, Title III.

4. JOBS Act, Title IV.

5. Dodd-Frank Wall Street Reform and Consumer Protection Act, Pub. L. No. 111-203, 124 Stat. 1376 (2010) (Dodd Frank Act was enacted after being signed by the President on July 21, 2010).

6. *Id.*

once startups that have elected to “go public” because they determined that the benefits of being public outweighed the costs of public-company regulations. The nature of corporate and securities regulation forces startups to stay small and private in order to avoid onerous public-company regulations, which actually limits the government’s ability to protect investors.

I call this contradictory policy phenomenon “Too Small To Succeed.” In future work, I will develop a unified theory of “Too Small To Succeed” regulations—which are reflected in many private-law regulations that have accrued since the recent financial crises—and analyze their unintended consequences. But, for the instant purposes of this Essay, I will restrict this exploration insofar as it pertains to the regulation of online equity crowdfunding, whereby ordinary Americans will be able to invest in startups that are not yet publicly traded.⁷ The law is intended to encourage the development of startups and to allow more Americans to profit from investing in them. But this rosy picture may not come to pass because too many of the traditional investor-protection provisions, that are popular with the too-big-to-fail policymakers, ultimately made their way into the federal crowdfunding law. As a result, a rapid rise of the Digital Shareholder is unlikely. Instead, a more likely outcome is that startups and investors will quickly realize that federal crowdfunding in its present form is too small to succeed.

This Essay will discuss how one specific instance of the “Too Small To Succeed” phenomenon resulted in policies that may impede or inhibit equity crowdfunding. The investors in online equity crowdfunding—who Professor Andrew Schwartz terms “Digital Shareholders”⁸—must create large networks in order to operate efficiently. Policies must leverage the unique characteristics of these Digital Shareholders; otherwise, as Professor Darian Ibrahim argues, equity crowdfunding may devolve into a “Market for Lemons.”⁹

I. DIGITAL SHAREHOLDERS

Professors Ibrahim and Schwartz both begin their

7. JOBS Act, Title III.

8. Andrew A. Schwartz, *The Digital Shareholder*, 100 MINN. L. REV. 609, 679 (2016).

9. Darian M. Ibrahim, *Equity Crowdfunding: A Market for Lemons?*, 100 MINN. L. REV. 561 (2016).

inquiries on the vitality of federal crowdfunding with a discussion of the well-recognized “trio of problems” in entrepreneurial finance as developed by Professor Ronald Gilson and others.¹⁰ In short, startup investors have three economic problems, which professional and public-company investors can generally mitigate, but Digital Shareholders might not be able to avoid. First, there is an information asymmetry problem: entrepreneurs know more than investors about what entrepreneurs will do,¹¹ which is why professional investors join the board and oversee the entrepreneurs.¹² Second, there is great uncertainty as to whether the venture will succeed,¹³ so professional investors invest in stages, over time.¹⁴ Third, there are agency costs (specifically, residual loss);¹⁵ entrepreneurs have incentives to shirk and self-deal,¹⁶ especially when the investor does not understand the entrepreneurs’ technology,¹⁷ so professionals generally invest in familiar technical areas.¹⁸ These problems and their solutions

10. Ronald J. Gilson, *Engineering a Venture Capital Market: Lessons from the American Experience*, 55 STAN. L. REV. 1067, 1076 (2003); see Robert P. Bartlett, III, *Venture Capital, Agency Costs, and the False Dichotomy of the Corporation*, 54 UCLA L. REV. 37, 41 n.9 (2006) (“This model . . . can be found in virtually any academic discussion . . .”).

11. See, e.g., Adrian Chiang, *How Entrepreneurs Can Crowdfund Renewable Energy Projects*, 8 J. BUS. ENTREPRENEURSHIP & L. 659, 683 (2015).

12. NOAM WASSERMAN, THE FOUNDER’S DILEMMAS: ANTICIPATING AND AVOIDING THE PITFALLS THAT CAN SINK A STARTUP 145 (2012).

13. See Chiang, *supra* note 11, at 683.

14. WASSERMAN, *supra* note 12, at 145; *Startup Financing*, in STARTUP CREATION FOR THE SMART ECO-EFFICIENT BUILT ENVIRONMENT (F. Pacheco Torgal ed., 2016).

15. Residual losses are agency costs resulting from divergent interests of principals and agents that persist even when principals expend effort to monitor and bond the agent. See Jay B. Kesten, *Managerial Entrenchment and Shareholder Wealth Revisited: Theory and Evidence from a Recessionary Financial Market*, 2010 BYU L. REV. 1609 (2010).

16. See *Agency Costs*, INVESTOPEDIA.COM, <http://www.investopedia.com/terms/a/agencycosts.asp> (last visited Aug. 13, 2016).

17. *American Experience: Henry Ford* (PBS television broadcast Jan. 29, 2013), <http://www.pbs.org/wgbh/americanexperience/features/transcript/henryford-transcript/> (“His investors want to make an expensive car to sell to wealthy people. Ford disagrees fundamentally. He wants to create a car for the people. . . . He’s trying to perfect an invention. In order to keep doing the trial runs and get it better, it’s going to take a lot of capital to keep testing, keep testing. . . . Narrator: Finally realizing they were being duped, his backers pulled the plug.”).

18. *Venture Capital*, U.S. SMALL BUS. ADMIN., <http://www.sba.gov/content/venture-capital> (last visited Aug. 13, 2016).

are interrelated (e.g., staged financing addresses both uncertainty and shirking), and these strategies have been formalized in the standard forms for venture capital financing.¹⁹

The Digital Shareholder probably cannot mitigate the trio of problems in the traditional ways. Given a legal limit of \$10,000 per investor per year, it is doubtful that the digital shareholder will have the time, inclination, or ability to join two or three corporate boards, manage a multi-staged private-investment portfolio, and get technical expertise in the latest app-coding languages.

In addition, crowdfunding theoretically has the additional problem of competition with professional investment.²⁰ The most promising startups receive multiple offers from the most prominent venture-capital investors, who contribute not only money but also professional services, work space, mentorship, advice, management, and, of course, access to yet more money. Offline, nodes of well-connected venture capitalists (VCs) with MBAs from Stanford share information about leads over lattes in Palo Alto. They meet founders daily, and their financial resources are virtually unlimited. Their associates process data from expensive, manicured databases²¹ into custom analytics reports, fine-tuned to each principal's predilections.²² The Digital Shareholder, on the other hand, goes to Crowdfunder.com and clicks "Search." Can Digital Shareholders—who are by definition amateurs—compete with investment professionals in finding, acquiring, servicing, and monitoring the best investment opportunities?

This picture may seem pretty bleak, but Professor Schwartz identifies five novel solutions that the Digital Shareholder may employ to solve the trio of problems: (1) the wisdom of the crowd,²³ (2) the crowdsourcing of information,²⁴

19. NAT'L VENTURE CAPITAL ASS'N, MODEL LEGAL DOCUMENTS, <http://nvca.org/resources/model-legal-documents/> (last visited Aug. 13, 2016).

20. In other work I have explained how crowdfunding and venture capital could be engineered to work in tandem. See Seth C. Oranburg, *Bridgefunding: Crowdfunding and the Market for Entrepreneurial Finance*, 25 CORNELL J. L. & PUB. POL'Y 397 (2015).

21. Some of the research tools that professional investors use include PitchBook, CapitalIQ, Option Impact, and SharkRepellant.

22. ASKIVY, *Role Descriptions in Venture Capital (VC)*, <http://www.askivy.net/articles/venture-capital/venture-capital-explained/role-descriptions-in-venture-capital> (last visited Aug. 13, 2016).

23. Schwartz, *supra* note 8, Part IV.A.

(3) online reputation,²⁵ (4) securities-based compensation,²⁶ and (5) digital monitoring.²⁷ These Digital Shareholder strategies may come into play both during the campaign and after the company receives the money.

While Professor Schwartz's solutions are theoretically sound, there is a practical problem to their implementation: all of these solutions require operations on a large scale, and the federal law is specifically designed to limit federal crowdfunding to a small scale. Therefore, without modification to the federal law, Professor Schwartz's solutions cannot be effectively used by the Digital Shareholder. Additionally, some of the heuristic behaviors that Digital Shareholders may use to make investment decisions may be problematic themselves.

A. THE WISDOM OF CROWDFUNDING

Professor Schwartz rightly points out that “[a] well-established body of scientific literature shows that groups are better at finding facts and making predictions than lone individuals, even experts.”²⁸ But the wisdom of crowds is only expressed where crowds can grow sufficiently large,²⁹ evaluate information that can be perfectly known,³⁰ or are organized around a thought leader.³¹ Currently, our securities laws seem to preclude these features, making it difficult for crowdfunding to converge on wise decisions. Instead, our securities laws seem more likely to encourage herding behavior, which is the key inefficiency that arises within crowds.³²

24. *Id.* at Part IV.B.

25. *Id.* at Part IV.C.

26. *Id.* at Part IV.D.

27. *Id.* at Part IV.E.

28. *Id.* at 659 (citing JAMES SUROWIECKI, *THE WISDOM OF CROWDS: HOW THE MANY ARE SMARTER THAN THE FEW AND HOW COLLECTIVE WISDOM SHAPES BUSINESS, ECONOMIES, SOCIETIES AND NATIONS* 31 (2004)) (“[A] large group of diverse individuals will come up with better and more robust forecasts and make more intelligent decisions than even the most skilled [individual acting alone.]”); Karsten Hueffer et al., *The Wisdom of Crowds: Predicting a Weather and Climate-Related Event*, 8 *JUDGMENT & DECISION MAKING* 91, 91 (Mar. 2013). For crowdfunding, where investors will have to gauge the future performance of various startup companies, predictions will be more important than fact-finding.

29. Schwartz, *supra* note 8, at 659.

30. *Id.*

31. *Id.*

32. Ian Lobel & Evan Sadler, *Information Diffusion in Networks through Social Learning*, 10 *THEORETICAL ECON.* 807, 808 (2015) (“According to the

Crowd Science, also known as “Citizen Science,” explains that groups of people (such as Digital Shareholders in crowdfunding) convey information to each other through their behaviors.³³ This is colloquially called “wisdom of the crowd.” When one member of a group witnesses the behavior of another, the first member may assume the second member is acting on information that is private to that second member. The first member, who may also have some private information, may infer the second member’s private information from the action that is observed. The first actor may then take a similar action based both on private information and inferred information.

A familiar example makes this theory clear. When a person decides to watch a video on a web site like YouTube, that person can see how many others have watched that video, which suggests something about the quality of that video. That person may decide to watch the most-watched video because the group information suggests that video is the highest quality.³⁴

This may seem quite innocuous, but as the crowd gets larger, the information from crowd behavior begins to overwhelm the actor’s private information. The extreme form of this group-think behavior is called an “information cascade,” where even rational individuals will choose to abandon their private information (or not make efforts to gather private information in the first place) and instead to follow the crowd.³⁵ In this case, the wisdom of the crowd can be sublimated into herd behavior.

Crowd science theory deems a crowd “successful” when it “aggregates” “asymptotic information.” In other words, from a systems-sciences perspective, a “wise” crowd is one that efficiently produces and distributes unique information about the true state of the world.

last two decades of economics scholarship, herding is the key inefficiency that arises in social learning models.”).

33. Eric Hand, *Citizen Science: People Power*, 466 NATURE 685, 685–87 (2010).

34. R. Crane and D. Sornette, *Viral, Quality, and Junk Videos on YouTube: Separating Content From Noise in an Information Rich Environment*, AAAI (2008), <https://www.aaai.org/Papers/Symposia/Spring/2008/SS-08-06/SS08-06-004.pdf>.

35. DAVID EASLEY & JON KLEINBERG, NETWORKS, CROWDS, AND MARKETS: REASONING ABOUT A HIGHLY CONNECTED WORLD 6 (2010).

Crowd science literature offers empirical findings about the wisdom of crowds. Data shows that the wisdom of crowds converges on an accurate decision as the size of the crowd becomes arbitrarily large.³⁶ In other words, larger networks make better decisions. Unfortunately for equity crowdfunding, the initial network size is zero, and government regulations will likely keep federal equity crowdfunding small.³⁷

In crowd-science talk, individual beliefs are “bounded” when no one individual has certainty as to the right answer, and they are “unbounded” when some members have absolute certainty about the true state of the world. Of course, few things we might want to ask of crowds are as binary and obviously knowable as 0 or 1. Infinitely unbounded beliefs are an assumption some crowd scientists make, but no human opinion is ever truly knowable and correct in an absolute sense.

Knowledge of which crowdfunding company is worth investing in cannot be absolutely certain, so assuming bounded beliefs seem to better reflect the reality of crowdfunding.

When beliefs are bounded, there may be a problem called “herding” or “information cascades.” Herding is when individuals merely mimic others’ actions, ignoring their own private information, as opposed to “learning aggregation,” when the crowd converges on the right result by leveraging both public and private information.³⁸

More recent studies have determined that social networks within crowds can improve information aggregation and lead to asymptotic learning where there are “influential agents” or “information leaders,” so long as that agent is not excessively influential.³⁹ In other words, when there is an individual amid the crowd who is observed by most or all other members of the

36. Daron Acemoglu et al., *Bayesian Learning in Social Networks*, 78 REV. ECON. STUDS. 1201, 1203 (2011) (“We say that there is asymptotic learning [information aggregation] if as the size of the society becomes arbitrarily large, equilibrium actions converge (in probability) to the action that yields the higher pay-off.”).

37. Seth C. Oranburg, *Democratizing Startups*, 68 RUTGERS U. L. REV. (forthcoming 2016).

38. Sushil Bikhchandani et al., *A Theory of Fads, Fashion, Custom, and Cultural Change as Information Cascades*, 100 J. POL. ECON. 992 (1992); Abhijit V. Banerjee, *A Simple Model of Herd Behavior*, 107 Q. J. ECON. 797 (1992). See also Lones Smith & Peter Sørensen, *Pathological Outcomes of Observational Learning*, 68 ECONOMETRICA 371 (2000).

39. Acemoglu, *supra* note 36, at 1218–19; Lobel & Sadler, *supra* note 32, at 809.

crowd as a thought leader, even a relatively small crowd with bounded beliefs may exhibit the wisdom of the crowd.

To summarize this in simpler terms, crowdfunding networks seem to have the qualities—namely, small size and bounded beliefs—that encourage herding behavior, which is inefficient and undesirable. Government policies that keep crowd size small are likely to further prevent the wisdom of the crowd from discovering the true state of the world (i.e., which investments are good and which are bad).

To alleviate this problem, regulations could allow or even encourage crowdfunding networks to grow large. An alternative solution, which I have expressly proposed in prior work⁴⁰ and which Professor Ibrahim alludes to in *A Market for Lemons*,⁴¹ is to require crowdfunding companies to have an influential agent. These modifications to the law will help the Digital Shareholder benefit from the wisdom of the crowd.

B. CROWDSOURCING

Crowdsourcing—where a group or “crowd” of users collaborate to produce information that is beneficial to the whole community⁴²—is a more promising ability of the Digital Shareholder because, and Professor Schwartz points out, the Securities and Exchange Commission (SEC) has expressly endorsed the sharing of information about investment opportunities among Digital Shareholders.⁴³ But the SEC’s endorsement of crowdsourcing⁴⁴ is mere verbiage unless the information networks are structured in a way that facilitates information diffusion without causing undesirable information cascades.

40. Oranburg, *supra* note 37.

41. Ibrahim, *supra* note 9, at 600.

42. Anhai Doan, Raghu Ramakrishnan, & Alon Y. HaLevy, *Crowdsourcing Systems on the World-Wide Web*, 54 COMM’NS OF THE ACM 86 (Apr. 2011).

43. Schwartz, *supra* note 8, at 663.

44. Crowdfunding, 80 Fed. Reg. 71,388 (Nov. 16, 2015) (to be codified at 17 C.F.R. pts. 200, 227, 232, 239–40, 249) (“Individuals interested in the crowdfunding campaign—members of the ‘crowd’—may share information about the project, cause, idea or business with each other and use the information to decide whether or not to fund the campaign based on the collective ‘wisdom of the crowd,’”); *id.* at 71,547 (Crowdfunding portals may “[p]rovide communication channels by which investors can communicate with one another and with representatives of the issuer through the funding portal’s platform about offerings through the platform . . .”).

Professors Lobel and Sadler introduced the metric of “diffusion” to the literature on theoretical economics.⁴⁵ Previously, social networks were deemed successful when they produced “aggregation,” which is when the true state of the world is revealed across a whole population.⁴⁶ Complete aggregation does not generally occur in the real world;⁴⁷ theories that predict complete aggregation rely on unrealistic assumptions of perfect network topology⁴⁸ or signals of unbounded strength.⁴⁹ On the other hand, diffusion—which is when all members of society obtain information such that they are able to achieve the same *ex ante* probability of making a good decision as an expert—can be used to evaluate the success of networks where strong signal are rare but informative.⁵⁰

Applying the theory of diffusion to the SEC’s crowdsourcing mandate (as codified in the C.F.R.)⁵¹ reveals some theoretical concerns about its system design and suggests that additional empirical research is needed. The SEC’s system design calls for Digital Shareholders to share information with each other. Professor Schwartz deals handily with the preliminary concerns that shareholders will guard and not share their private information: no one shareholder can fund a company and so a shareholder who wants a company to succeed must inform others about its value; in short, “crowdfunding promotes cooperation.”⁵²

But what is the nature of the information that is communicated? The shareholders generating this information are legally permitted to invest somewhere between \$2500 and \$5000 per year in all their crowdfunding investments.⁵³ Ideally, Digital Shareholders diversify this investment in at least ten to twenty separate companies.⁵⁴ If a shareholder invests only

45. Lobel & Sadler, *supra* note 32, at 811.

46. EASLEY & KLEINBERG, *supra* note 35, at 6 (“What we see in these figures is a growing awareness and adoption of a new innovation that is visible in aggregate, across a whole population.”).

47. *But see Exodus* 19:11 (“And be ready against the third day: for the third day the LORD will come down in the sight of all the people upon mount Sinai.”).

48. Acemoglu, *supra* note 36, at 1201.

49. Smith & Sørensen, *supra* note 38, at 371.

50. Lobel & Sadler, *supra* note 32, at 807, 809.

51. 17 C.F.R. Parts 200, 227, 232, 239, 240, 269, and 274 (2016).

52. Schwartz, *supra* note 8, at 666.

53. *Id.*

54. Oranburg, *supra* note 20; Usha Rodrigues, *Securities Law’s Dirty*

about \$250 per company, that shareholder is rationally motivated to spend no more than \$250 in effort to research, select, and transmit information about that investment opportunity. To put this number in perspective, a stock-market analyst who works for an exchange earns about \$115,000 per year⁵⁵ and covers about 30 companies,⁵⁶ which equates to about \$4000 per company covered. Additionally, a professional analyst is generally better trained in analyzing equities than an average person who may participate in crowdfunding. Accordingly, the signals from shareholders are likely to be weak and frequent. Recall that diffusion is most likely to occur when signals are strong and infrequent. In the absence of aggregation or diffusion, information cascades are likely to occur.⁵⁷

Professor Schwartz recognizes that “[a]nchoring and information cascades like this could undermine the effectiveness of crowdsourcing investor information,” although he concludes that “there is good reason to think that anchoring and information cascades will not be fatal in the context of crowdfunding because investors are likely to feel and act independent from one another.”⁵⁸ I tend to disagree with this conclusion because shareholders who are investing only about \$250 per company have no rational reason to expend the effort required to think independently and instead will employ groupthink heuristics to make investment decisions; however, the behavior of crowdfunding investors remains an unsolved empirical question that requires further study. Additionally, as Professor Schwartz points out, there may be non-pecuniary

Little Secret, 81 FORDHAM L. REV. 3395–96 (2013).

55. Louis Horkan, *The Salary of a Stock Market Analyst*, HOUSTON CHRONICLE: WORK, <http://work.chron.com/salary-stock-market-analyst-8556.html> (last visited Aug. 13, 2016).

56. THE VAULT MBA CAREER BIBLE 162 (2005).

57. Acemoglu, *supra* note 36, at 1203 (“The main result of Smith and Sorensen is that when each individual observes all past actions and private beliefs are unbounded, information will be aggregated and the correct action will be chosen asymptotically. In contrast, the results in Bikhchandani, Hirshleifer and Welch (1992), Banerjee (1992), and Smith and Sorensen (2000) indicate that with bounded beliefs, there will not be asymptotic learning (or information aggregation). Instead, as emphasized by Bikhchandani, Hirshleifer and Welch (1992) and Banerjee (1992), there will be ‘herding’ or ‘informational cascades,’ where individuals copy past actions and/or completely ignore their own signals.”).

58. Schwartz, *supra* note 8, at 668–69.

motivates, such as generating a positive online reputation, that may overcome the rational apathy of Digital Shareholders.

C. NON-PECUNIARY MOTIVATIONS

Professor Schwartz comprehensively addresses the role of online reputation in promoting information sharing in crowdfunding networks.⁵⁹ Additionally, gamification—the use of game design elements in non-game contexts⁶⁰—is an additional non-pecuniary motivation that may encourage Digital Shareholders to share information. Gamification methods create a positive user experience that improves user retention and utilization.⁶¹ Recent studies have shown that gamification works for implantations in commerce,⁶² sharing,⁶³ innovation,⁶⁴ ideation,⁶⁵ data gathering,⁶⁶ and other contexts related to equity crowdfunding.

Gamification can facilitate online reputation by “scoring” the reputation of users; in fact, there are business-method patents to this effect.⁶⁷ Gamification of reputation has been

59. *Id.* at Part IV.C.

60. Sebastian Deterding et al., *From Game Design Elements to Gamefulness: Defining “Gamification,”* in PROCEEDINGS OF THE 15TH INT’L ACAD. MINDTREK CONF.: ENVISIONING FUTURE MEDIA ENV’TS 9 (2011), <http://dl.acm.org/citation.cfm?id=2181040>.

61. Sebastian Deterding et al., *Gamification: Using Game-Design Elements in Non-Gaming Contexts*, in CHI ’11 EXTENDED ABSTRACTS ON HUMAN FACTORS IN COMPUTING SYS. 2425 (2011), <http://dl.acm.org/citation.cfm?id=1979575>.

62. Juho Hamari, *Transforming Homo Economicus into Homo Ludens: A Field Experiment on Gamification in a Utilitarian Peer-To-Peer Trading Service*, 12 ELEC. COM. RES. APPLICATIONS 236 (2013).

63. Markus Montola et al., *Applying Game Achievement Systems to Enhance User Experience in a Photo Sharing Service*, in PROCEEDINGS OF THE 13TH INT’L ACAD. MINDTREK CONF.: EVERYDAY LIFE IN THE UBIQUITOUS ERA 94 (2009), <http://dl.acm.org/citation.cfm?id=1621859.94-97>.

64. J.H. Jung, Christopher Schneider & Joseph Valacich, *Enhancing the Motivational Affordance of Information Systems: The Effects of Real-time Performance Feedback and Goal Setting in Group Collaboration Environments*, 56 MGMT SCI. 724 (2010).

65. Maximilian Witt, Christian Scheiner & Susanne Robra-Bissantz, *Gamification of Online Idea Competitions: Insights from an Explorative Case*, 41 Jahrestagung der Gesellschaft für Informatik (October 4–7, 2011).

66. Theo Downes-Le Guin et al., *Myths and Realities of Respondent Engagement in Online Surveys*, 54 INT’L J. MKT. RES. 1 (2012).

67. Method and System for Managing Domain Specific and Viewer Specific Reputation on Online Communities, U.S. Patent No. 20080109245 A1 (filed Nov. 3, 2007) (issued May 8, 2008), <https://www.google.com/patents/US20080109245>.

applied in varied contexts such as encouraging software developers to include comments in their code⁶⁸ and creating leaderboards to encourage classroom learning.⁶⁹ Gamification has even been used to attract and retain reliable crowdsourcing tasks such as relevance assessment and clustering, which could be directly applied to crowdsourcing for the Digital Shareholder.⁷⁰

In sum, while the SEC does not mandate crowdsourcing, it also does not prevent it. So long as there is sufficient competition in the market for crowdfunding portals, some enterprising portals may employ gamification to encourage Digital Shareholders to contribute high-quality efforts to investment crowdsourcing, which may indeed help Digital Shareholders overcome information asymmetry and agency costs in crowdfunding.

D. INCENTIVES AND MANAGEMENT

The Digital Shareholder has two additional devices that may help crowdfunding succeed. First, Professor Schwartz suggests that an entrepreneur who uses crowdfunding should promise to “eat its own cooking” by being compensated with the same type of security that Digital Shareholders receive.⁷¹ Second, digital monitoring—allowing investors to oversee entrepreneurs through an “online chat group” and similar means—could also be used to ensure that entrepreneurs do not shirk.

The SEC does not require this. Whether or not entrepreneurs, Digital Shareholders, and the other participants in the equity-investment ecosystem (venture capitalists and angel investors) will prefer this arrangement is essentially an empirical question that has not been answered. Until the data show these requirements are helpful or necessary as default

68. Christian Reinhard Prause, *Improving the Internal Quality of Software through Reputation-based Gamification*, (Mar. 21, 2013) (unpublished Ph.D. dissertation, Aachen University), <http://citeseerx.ist.psu.edu/viewdoc/download?doi=10.1.1.465.7157&rep=rep1&type=pdf>.

69. Ilaria Caponetto, Jeffrey Earp & Michela Ott, *Gamification and Education: A Literature Review*, in *PROCEEDINGS OF THE 8TH EUR. CONF. ON GAMES-BASED LEARNING* 50 (2014).

70. Carsten Eickhoff et al., *Quality through Flow and Immersion: Gamifying Crowdsourced Relevance Assessments*, in *PROCEEDINGS OF THE 35TH INT'L ACM SIGIR CONF. ON RES. AND DEV. IN INFO. RETRIEVAL* 871, <http://dl.acm.org/citation.cfm?id=2348400>.

71. Schwartz, *supra* note 8, at 679.

provisions, it is not prudent to mandate these arrangements in all sales of crowdfunding stock.

On the other hand, creating a new role for an overseer and evaluator of crowdfunding investments—an idea which I develop more fully in *Democratizing Startups*⁷² and to which Professor Ibrahim also alludes to in *A Market for Lemons*⁷³—solves many of the information-asymmetry and agency-cost problems in crowdfunding while providing precisely the type of strong information signal that has been theoretically and empirically proven in the crowd science literature to improve crowdsourcing outcomes.

II. THE EQUITY CROWDFUNDING MARKET

While the federal law that enables equity crowdfunding was passed on April 5, 2012,⁷⁴ that law simply required the SEC to promulgate final rules that allow equity crowdfunding to occur.⁷⁵ The SEC's final rules just went into effect on May 16, 2016.⁷⁶ There is still very little data on how this brand-new exemption is functioning, but an analysis of the non-equity crowdfunding campaigns that succeeded previously and an examination of the equity crowdfunding campaigns that have already launched provides several valuable insights into the new equity crowdfunding market.

First, comparing the top 10 crowdfunded campaigns with the top 10 venture-backed companies reveals that these different modalities of fundraising are used for very different purposes. A list of the most successful crowdfunding campaigns (as measured by amount raised) consists almost entirely of consumer-technology products (e.g., the Pebble smartwatch, the Coolest cooler, the World's Best Travel Jacket, the Pono Music Player, the Sondors Electric Bike) and entertainment (e.g., the Exploding Kittens video game, the Veronica Mars Movie Project, Reading Rainbow, the Super Troopers 2 movie).⁷⁷ In

72. Oranburg, *supra* note 37 (proposing a “private independent analyst” or PIA).

73. Ibrahim, *supra* note 9, at 600 (proposing a “Nominated Advisor” or NOMAD).

74. 17 C.F.R. Parts 200, 227, 232, 239, 240, 249, 269, and 274 (2016).

75. *Id.*

76. Catherine Clifford, *Starting May 16, Entrepreneurs Can Raise Money in a Whole New Way. Here's What You Need to Know*, ENTREPRENEUR (May 5, 2016), <https://www.entrepreneur.com/article/275215>.

77. *Most Successful Crowdfunding Campaigns*, CROWDFUNDING BLOG

stark contrast, the Wall Street Journal's second annual ranking of the top venture-capital-backed companies shows that "investors are chasing after Internet firms."⁷⁸ Digital Shareholders almost never invest in business-to-business (B2B) solutions, which is one of the top investment categories for VCs. In fact, "[t]he top three [VC-funded] companies are all business-product makers: Genband Inc., a supplier of voice-over-Internet-protocol technology to telecom companies; Xirrus Inc., a provider of wireless networking equipment; and Tabula Inc., which makes semiconductors for electronic products."⁷⁹ It is readily apparent that a battery-powered cooler with a built-in radio (the aforementioned crowdfunded Cooler Cooler) is an entirely different sort of project than supplying B2B VoIP services.

Second, the success rate of crowdfunding projects (as measured by their ability to raise funds) is much higher than the success rate of companies seeking VC funding. Crowds have already shown a strong preference for funding companies that are required to return all the funds if the companies do not meet an overall fundraising goal by raising money from a large number of people, whereas venture-capital firms generally invest solo or in small groups simultaneously. On Kickstarter, arguably the most popular non-equity crowdfunding platform with over \$2 billion pledged to projects,⁸⁰ companies must reach a pre-established fundraising goal before any money is released to the company.⁸¹ Even so, an incredible 44% of Kickstarter

(Feb. 18, 2016), <http://crowdfundingblog.com/most-successful-crowdfunding-projects/>.

78. Colleen Debaise & Scott Austin, *The Top 50 Venture-Backed Companies*, WALL ST J. (Mar. 10, 2011), <http://www.wsj.com/articles/SB10001424052748703300904576178673309577828>.

79. Zoran Basich & Emily Maltby, *Looking for the 'Next Big Thing'? Ranking the Top 50 Startups*, WALL ST J. (Sept. 27, 2012), <http://www.wsj.com/articles/SB10000872396390444813104578018940187057924>.

80. *Stats*, KICKSTARTER, <https://www.kickstarter.com/help/stats?ref=footer> (last visited Aug. 13, 2016) (showing that through Kickstarter's platform, over \$2 billion has been pledged to various projects).

81. *Funding*, KICKSTARTER, <https://www.kickstarter.com/help/handbook/funding> (last visited Aug. 13, 2016) (explaining that Kickstarter will not release any money until the project's goal has been reached); *How Likely Is Your Crowdfunded Campaign to Succeed?*, CAN. MEDIA FUND, http://crowdfunding.cmf-fmc.ca/facts_and_stats/how-likely-is-your-crowdfunding-campaign-to-succeed (last visited Aug. 13, 2016) ("Kickstarter campaigns, on the other hand, must reach their goal to receive any funds. This threshold requirement may also influence owners of Kickstarter campaigns to work harder to reach their objectives, or to set lower goals, as they will not receive

projects met their funding goal in 2013.⁸² Comparatively, only about 1.5% of venture-capital funding goes to seed-stage startups.⁸³ While there is not any data directly showing how many companies looked for VC financing and failed to receive it, some commentators have calculated that about “99.93% of [startup companies] will never get VC.”⁸⁴

Additionally, there is a troubling gender gap in VC investment that is actually reversed within the crowdfunding context. Despite the fact that 36.3% of businesses in the United States are owned by women,⁸⁵ women-led companies received only 7% of all the venture capital funding in the United States.⁸⁶ In an empirical test, men who pitched to VCs received funding 60% more often than women did.⁸⁷ In another experiment that offered investors the same pitch with a man’s voice and with a woman’s voice, 68% of investors preferred to fund the venture pitched by a man’s voice.⁸⁸ In stark contrast, 70% of women-led startups on the CircleUp Portal received funding, where only 58% of men-led startups received capital.⁸⁹ Crowdfunding thereby demonstrates its potential to “democratize startups.”⁹⁰

any funding unless they are ‘completely’ successful.”).

82. Robert Strohmeyer, *The Crowdfunding Caveat: Most Campaigns Fail*, PC WORLD (Sept. 26, 2013), <http://www.pcworld.com/article/2049399/the-crowdfunding-caveat-most-campaigns-fail.html>. For up-to-date, daily updated statistics, see also *Stats*, KICKSTARTER, <https://www.kickstarter.com/help/stats> (last visited Aug. 13, 2016).

83. *2014 MoneyTree Report*, PRICEWATERHOUSECOOPERS (Feb. 2016), https://www.pwcmoneytree.com/Reports/FullArchive/National_2014-4.pdf (showing that \$719 million out of \$48.349 billion venture-capital funding goes to seed-stage startups).

84. Dileep Rao, *Why 99.5% of Entrepreneurs Should Stop Wasting Time Seeking Venture Capital*, FORBES (July 22, 2013), <http://www.forbes.com/sites/dileeprao/2013/07/22/why-99-95-of-entrepreneurs-should-stop-wasting-time-seeking-venture-capital/#12e54458296d> (“[T]he probability of an average new business getting VC is about 0.0005 (300/600,000).”).

85. *Fact Sheet: Women-Owned Businesses*, NAT’L WOMEN’S BUS. COUNCIL (2012), https://www.nwbc.gov/sites/default/files/FS_Women-Owned_Businesses.pdf.

86. Shaunacy Ferro, *Your Startup is More Likely to Get Funding if You Are a Man*, FASTCO DESIGN (Mar. 11, 2014), <http://www.fastcodesign.com/3027458/your-startup-is-more-likely-to-get-funding-if-youre-a-man>.

87. *Id.*

88. *Id.*

89. Susan Caminiti, *Women Rule When It Comes to Crowdfunding*, CNBC (Sept. 4, 2014), <http://www.cnbc.com/2014/09/03/women-rule-when-it-comes-to-crowdfunding.html>.

90. See Oranburg, *supra* note 37.

Third, the failure rate of crowdfunded companies (as measured by their ability to deliver products as promised), is also much lower than the failure rate of venture-backed companies (as measured by their ability to return their investors' capital). According to recent reports, "three-quarters of venture-backed firms in the U.S. don't return investors' capital."⁹¹ The failure rate among angel-funded companies seems to be even higher: out of 100 average angel-funded companies, "two will eventually return just the capital that was originally invested, leaving only three as profitable exits."⁹² Meanwhile, Kickstarter reports that only 9% of successfully funded projects fail to deliver rewards to their backers.⁹³ Other independent sources have put the overall crowdfunding failure-to-timely-deliver rate at a much-higher 39%.⁹⁴ In any event, the failure rate of crowdfunding projects to deliver on promises is remarkably lower than the failure rate of VC-funded companies to make a return on investment.

It bears repeating that the data above regards *non-equity* crowdfunding. It is critical to re-evaluate these empirical studies when data on equity crowdfunding is available. Still, it is sensible to hypothesize that many of these above-mentioned non-equity crowdfunding trends will also be found in equity crowdfunding because these two fundraising modalities share so many observable characteristics. In any event, it is sufficient for the instant purposes of this Essay to demonstrate that crowdfunding and venture-capital investment are quite different, and therefore might be best understood as occurring in completely separate marketplaces.

91. Deborah Gage, *The Venture Capital Secret: 3 out of 4 Startups Fail*, WALL ST. J. (Sept. 20, 2012), <http://www.wsj.com/articles/SB10000872396390443720204578004980476429190>; see also John McDermott, *Report: 75% of Venture-Backed Start-Ups Fail*, INC. (Sept. 20, 2012), <http://www.inc.com/john-mcdermott/report-3-out-of-4-venture-backed-start-ups-fail.html>.

92. David S. Rose, *The Startup Failure Rate Among Angel-Funded Companies*, GUST BLOG (Aug. 17, 2015), <http://blog.gust.com/the-startup-failure-rate-among-angel-funded-companies/>.

93. Luke Graham, *Just 9% of Successfully Funded Kickstarter Projects Fail to Deliver*, CNBC (Dec. 10, 2015), <http://www.cnbc.com/2015/12/10/9-percent-kickstarter-projects-fail-to-deliver.html>; see also *The Kickstarter Fulfillment Report*, KICKSTARTER, <https://www.kickstarter.com/fulfillment> (last visited Aug. 13, 2016).

94. Strohmeyer, *supra* note 82 ("The first backers to receive their packs waited two months past the initial delivery estimate, while 39 percent are still waiting.").

A. DUMB MONEY, WISE CROWDS

None of the crowd-science theory of information aggregation and diffusion matters if there are no good investments available through crowdfunding. Professor Ibrahim argues that equity crowdfunding has a “market for lemons” problem.⁹⁵ The classic example of a lemons market is the 1970s used car lot downtown. Buyers assume those cars are low quality, so the seller discounts them. But one cannot sell high quality products at discount prices, so the high-quality products exit the market, and only the “lemons” are left.

Professor Ibrahim argues that dumb money may turn crowdfunding into a market for lemons. In response to Professor Ibrahim’s argument that crowdfunding is “dumb money,” see Part II of this Essay; see also Section (A)(2)(b)(ii) of his Article, which also acknowledges that crowds can be wise. But crowds are not necessarily wise, especially where regulations are imposed on them in ways that prevents networks from aggregating and disseminating information efficiently.

Professor Ibrahim’s point that dumb money can ruin valuations in a shallow market should be taken quite seriously. As discussed above, policymakers appear not to fully understand the nature of crowds in terms of the systems and structures that best evidence their wisdom. If crowds cannot aggregate and diffuse valuable information about the true value of the companies who seek crowdfunding investments, then crowdfunding may fail. Therefore, policymakers should focus on making “smart regulations” that leverage the wisdom of crowds to prevent the “dumb money” problem.

B. A DISTINCT MARKET FOR CROWDFUNDING

Even if crowds are “dumb,” there are still reasons to believe the crowdfunding will not be a market for lemons, mainly because the crowdfunding market is in fact a different market than other investment markets. Professor Ibrahim’s core argument is that owners of good companies will not offer investment opportunities in such companies to Digital Shareholders because these “dumb money” investors will not be able to distinguish between good and bad companies. Digital Shareholders will not value good companies more than bad

95. Ibrahim, *supra* note 82, at 593.

companies, so owners of good companies will only seek capital from professional investors, who can appreciate their quality and will pay for it. Critically, this argument rests on the assumption that the properties which make a company “good” or “bad” are the same for Digital Shareholders and professional investors. But this is not the case. Crowdfunding is economically valuable precisely because it makes funding available to an entirely new genre of companies; namely, the companies that professional investors have long eschewed.

In George Akerlof’s classic example of the lemons market for used automobiles, there are just four kinds of cars: new, good cars; new, bad cars; used, good cars; and used, bad cars.⁹⁶ In this schema, all car buyers want a “good” car. This simplification makes sense where most buyers can agree that a “good” car is one that is mechanically sound. But there is no such analogy to crowdfunding, where diverse Digital Shareholders have a multitude of reasons for investing in a particular company.

Professionals such as VCs seek to maximize return on investment (ROI) of about 25% to 30% by investing in a portfolio of companies and monitoring them closely, expecting some to totally fail and others to return 20X the initial investment.⁹⁷ VCs invest in:

industries that are more competitively forgiving than the market as a whole. . . . In effect, venture capitalists focus on the middle part of the classic industry S-curve. They avoid both the early stages, when technologies are uncertain and market needs are unknown, and the later stages, when competitive shakeouts and consolidations are inevitable and growth rates slow dramatically.⁹⁸

Digital Shareholders seem to operate quite differently. They often choose to invest in local companies,⁹⁹ women- or minority-owned companies,¹⁰⁰ and companies that make

96. George A. Akerlof, *The Market for ‘Lemons’: Quality, Uncertainty and Market Mechanism*, 84 Q. J. Econ. 488, 489 (1970).

97. Bob Zider, *How Venture Capital Works*, HARV. BUS. REV., Nov.–Dec. 1998, <https://hbr.org/1998/11/how-venture-capital-works>.

98. *Id.*

99. See, e.g., *How to Invest Local*, LOCAVESTING, <http://www.locavesting.com/how-to-invest-local/> (last visited Aug. 13, 2016) (“There are a growing number of alternatives for individuals who want to invest locally.”); *Invest in Texas Businesses*, NEXTSEED.COM, <https://www.nextseed.com> (last visited Aug. 13, 2016).

100. Bret Conklin, *Three Ways Crowdfunding Empowers Women & Minority Entrepreneurs*, CROWDFUND INSIDER (June 17, 2016), <http://www.crowdfundinsider.com/2016/06/87003-three-ways-crowdfunding-empowers->

consumer products,¹⁰¹ even though few of these investments can ever achieve 20X returns. Web sites that facilitate these local investments (“Portals”) generally do not promise to “maximize returns,” but rather make more modest claims like “earn solid returns.”¹⁰²

The investment goals of Digital Shareholders may not be to earn 25% ROI over a 10-year term; rather, they may seek to foster local companies, support an underserved demographic, or to produce a consumer product they will enjoy owning. Therefore, equity crowdfunding may not have the severe information asymmetries of Professor Ibrahim’s concern.¹⁰³ Digital Shareholders can observe prior to investing whether a company is operated locally, owned or run by women, or produces an enticing consumer good. Portals can easily determine and convey such information. In fact, many state laws require Portals to confirm that online equity investment opportunities are in-state companies.¹⁰⁴

Returning to the classic Akerlof analogy, it now seems that equity crowdfunding is more like a market for new cars than for old ones, at least on the dimensions that are most relevant to Digital Shareholders’ investment decisions. A new-car buyer

women-minority-entrepreneurs/ (discussing a 2014 report by Crowdfund Capital Advisors that predicted that crowdfunding would help redefine the capital disparity that exists for both minorities and women trying to find investors).

101. *Id.* (noting that crowdfunding has the ability through broadening the base of investors to open avenues for raising capital that the venture community has traditionally not provided for women and minorities); Salvador Rodriguez, *Tech Diversity: New SEC Crowdfunding Rules are a Big Win for Minority and Women Entrepreneurs*, INT’L BUS. TIMES (Oct. 30, 2015), <http://www.ibtimes.com/tech-diversity-new-sec-crowdfunding-rules-are-big-win-minority-women-entrepreneurs-2163390> (noting that crowdfunding has already proved beneficial for underrepresented groups in the U.K. as more than half of the businesses that raised funding through Syndicate Room—the leading U.K. equity crowdfunding platform, had a female founder or lead investor); see also Will Schroter, *Top 10 Business Crowdfunding Campaigns of All Time*, FORBES (Apr. 16, 2014), <http://www.forbes.com/sites/wilschroter/2014/04/16/top-10-business-crowdfunding-campaigns-of-all-time/#3a259950203d>.

102. NEXTSEED.COM, <https://www.nextseed.com> (last visited Aug. 13, 2016).

103. Ibrahim, *supra* note 9, at 651.

104. See, e.g., The Illinois Securities Law of 1953, 815 ILL. COMP. STAT. 5/1–5/19 (2016), as amended by the Illinois Intrastate Equity Crowdfunding Bill, 815 ILL. COMP. STAT. 5/2.34 et. seq. (stating that if the issuer issues securities through a registered Internet portal, that portal verifies that the purchaser is a resident of the state of Illinois).

can readily determine whether a model is a convertible or a sedan (even if it is “impossible for a buyer to tell the difference between a good and a bad [used] car”).¹⁰⁵ Likewise, there is no information asymmetry regarding whether an investment opportunity is for a local brewery,¹⁰⁶ a personal aircraft,¹⁰⁷ or a mission to mars.¹⁰⁸ If Digital Shareholders are more concerned with the nature of the company they fund than with the probability of making outsized returns, then equity crowdfunding is really a different market from venture-capital funding, and the lemons concern (where “good” companies seek VC investment and “bad” companies seek crowdfunding investment) is diminished.

CONCLUSION

This Essay suggests that equity crowdfunding could become an important part of the innovation economy if the regulatory systems are engineered properly. In prior work, I have pointed out numerous ways they are mis-engineered. Here, I hope to have made two new points: First, Internet crowds are as wise as we engineer the user experience to be. It follows that if crowds are regulated to be dumb, they will make dumb investment decisions. Therefore, the argument that we should protect crowdfunding investors via regulation must be evaluated through the crowd-science lens: we should only regulate crowd behavior where doing so clearly improves information aggregation and does not cause information cascades.

Second, Crowdfunding is not merely about making money. Crowdfunding provides a new model for the economy, emerging from our new capacity to stream the wisdom of crowds through Internet Portals to crowd-source investment decisions. This democratizes access to investment and encourages equity investments that are not based purely on the venture-capital

105. Akerlof, *supra* note 96, at 489.

106. See CRAFTFUND.COM, <http://craftfund.com> (last visited Aug. 13, 2016).

107. *XTI Aircraft Exceeds \$1 Million in Equity Crowdfunding Investments; Will Accelerate Development of Trifan 600 Prototype*, XTI AIRCRAFT (Apr. 21, 2016), <http://www.xtiaircraft.com/2016/04/21/xti-aircraft-exceeds-1-million-equity-crowdfunding-investments-will-accelerate-development-trifan-600-prototype/>.

108. *AlgaStar*, CROWDFUNDER, <https://www.crowdfunder.com/algastar/invest> (last visited Aug. 13, 2016) (describing crowdfunding project as “[m]ission to Mars—biotechnology R&D company for producing food, Co2 to pure oxygen & valuable biochemicals for earth & space utilization”).

model of return on investment, opening up new possibilities for funding new categories of companies and entrepreneurs. It is folly to evaluate crowdfunding purely with venture-capital metrics like return on investment. Crowdfunding systems should be evaluated by their capacity to reveal what people want and believe and by their ability to capitalize diverse entrepreneurs and ideas.