

Journalism Innovation and Participation: An Analysis of the Knight News Challenge

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In recent years, the Knight News Challenge has emerged as one of the most important forums for stimulating innovation in journalism and as a salient marker of the Knight Foundation's influence in the field. However, scholarly literature has yet to discuss this contest's design and execution, its applicants and winners, and the implications for the future of journalism that may be revealed in this process. This study examines content analysis data for nearly 5,000 applications to the Knight News Challenge, exploring the distinguishing features of its applicants, finalists, and winners. This analysis is presented against the backdrop of a key conceptual question for journalism in the 21st century: how does it reconcile the growing tension between professional control and open participation? Results suggest that finalists and winners more often use forms of participation and distributed knowledge (i.e., crowdsourcing and user manipulation) and other features not typically associated with journalism (e.g., software development). These findings are placed in the context of the Knight Foundation's broader efforts to shape journalism innovation.

Introduction

In much of Western society, institutional journalism faces a two-part challenge: a crisis of professional authority amid the rise of do-it-yourself publishing, and a crisis of industry sustainability amid threats to traditional models of subsidy through advertising. As U.S. newspapers, in particular, fail to respond to these problems (for some discussion, see Lowrey, 2011; McChesney & Pickard, 2011), nonprofit foundations have stepped in, assuming an increasingly prominent role in providing the seed funding and institutional capital for journalism (Browne, 2010; Downie & Schudson, 2009; Guensburg,

¹ The author gratefully acknowledges funding support from the Mass Communication & Society Division of the Association for Education in Journalism and Mass Communication, as well as generous assistance from Stephen D. Reese, Homero Gil de Zúñiga, and Sebastián Valenzuela.

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Date submitted: 2011-03-10

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2008; Hamilton, 2009; Mitchell, 2010; Waldman, 2011; Westphal, 2009), as in the case of such niche news organizations as *Voice of San Diego* and MinnPost.com (Kurpius, Metzgar & Rowley, 2010; Shaver, 2010). Although a nonprofit component is hardly new to the journalism field (Shaver, 2010), the current foundation-driven influence extends beyond mere subsidy for newswork to a more holistic interest in driving innovation at the broader professional level (Lewis, 2010; Lewis, in press).

In light of the twin crises for journalism just described, this nonprofit intervention can be seen not only as a way of addressing the market failure of journalism-as-industry, but also as a way of attempting to resolve the crisis of journalism-as-profession as news makers navigate the challenge of professional control in a participatory media space online (Singer et al., 2011). My purpose is not to review the landscape of and conditions for nonprofit-supported media as others have done (e.g., Downie & Schudson, 2009; Fremont-Smith, 2009; Maguire, 2009; Usher & Laysner, 2011; Westphal, 2009), nor is it to critique the model's shortcomings (Browne, 2010; Entman, 2010). Instead, this study aims to examine one particularly salient case—the Knight News Challenge grant-funding contest—as a means of considering the process through which a professional field attempts to innovate its way out of crisis.

The most prominent example of such nonprofit influence and dual industry–professional intervention is The John S. and James L. Knight Foundation, one of the largest private foundations in the United States, with \$2 billion in assets. The Knight Foundation has given more than \$400 million to journalism-related initiatives in the past 50 years, with more than half of those funds being invested in the past decade alone. Moreover, in just the past 5 years, a large portion of that funding has shifted from traditional journalism projects (e.g., endowing chairs in journalism schools or underwriting mid-career training programs for professionals) to more experimental, even risky, initiatives intended to stimulate innovation in journalism (Wilhelm, 2009). The Knight Foundation has given millions of dollars to seed news startups around the United States (for some examples, see Kurpius et al., 2010) and has underwritten a series of grants focused on citizen and participatory forms of journalism—in short, projects outside the mainstream.

The signature effort of the Knight Foundation's promotion of innovation has been the Knight News Challenge, an annual contest begun in 2006 offering \$25 million to support "innovative ideas that develop platforms, tools and services to inform and transform community news, conversations and information distribution" using digital media (see Connell, 2010). For both the Knight Foundation and philanthropy more broadly, the Knight News Challenge is emblematic of an ongoing shift in grant making—a shift away from a tradition that privileges legacy institutions and their proposals through a mostly closed funding system and toward a model of "prize philanthropy," which has become popular in recent years (McKinsey & Company, 2009). This prize philanthropy model usually involves (1) offering a major award for solving a difficult problem to generate greater media attention and word-of-mouth buzz, (2) opening the application process to virtually anyone to ensure the greatest possible diversity in applicants and ideas, and, in some cases, (3) opening the judging process to allow crowds of users, experts outside the foundation, or both to participate in determining winners. Unlike previous Knight funding efforts, the News Challenge was designed to be open to individuals as well as organizations, for-profit firms as well as nonprofit institutions, and crucially, non-journalists as well as professionals. In part because of this openness, and especially because of the wide media coverage and acclaim that its winners

have generated, the Knight News Challenge has assumed an outsized role in setting the agenda for journalism innovation.

This growing influence of the Knight Foundation generally and its News Challenge in particular raises questions about the nature of such influence, whether good, bad, or otherwise, for journalism. The Knight News Challenge should reveal something about the underlying aims of the Knight Foundation, as it is the clearest and most public manifestation of what the foundation is trying to accomplish at the intersection of journalism and innovation. This insight is important given that the field is in transition and therefore more susceptible to shaping influences (Downie & Schudson, 2009). Therefore, it's important to understand contest applicants, finalists, and winners—and, in particular, the *content* of their proposal applications because in that content we find embedded the aspirations and assumptions, tactics and theories of would-be innovators. This content, in turn, should reflect how, in general, the Knight Foundation framed and promoted the competition. More importantly, the content of proposals that advanced furthest in the competition—i.e., reached the finalist stage—*should indicate what the Knight Foundation was hoping to fund in the first place*. Yet, to this point, these insights about Knight and its News Challenge have not been explored in academic literature.

Thus, the purpose of this study is to examine the content of Knight News Challenge applications to understand the nature of the contest and its potential impact on innovation in journalism. This article presents a secondary data analysis of nearly 5,000 application proposals. The goal of this analysis was to provide a systematic picture of the contest's applicants, descriptively, and to enable statistical tests that would assess how particular criteria were predictive² of one's application becoming a finalist or winner. These considerations factored into the first research question:

RQ1. Based on a quantitative analysis of proposals, what are the distinguishing features of applicants, finalists, and winners of the Knight News Challenge, and how are those features predictive of one's proposal advancing in the contest?

This analysis is presented against the backdrop of a key conceptual question for journalism in the 21st century: how is the growing tension between professional control and open participation reconciled? This question is both philosophical and practical (Lewis, Kaufhold, & Lasorsa, 2010) and is a recurring theme of research on online journalism (Mitchelstein & Boczkowski, 2009). As Singer (2010) observes, journalists spent their first decade online coming to grips with the technical nature of "being digital," as seen in ethnographies of online news (e.g., Paterson & Domingo, 2008); yet, in the Web's second decade, "a different characteristic of the internet has become central: the fact that it is not just digital but also a network" (Singer, 2010, p. 277). Digital networks remove some distinctions between producer and consumer, enabling end users to create and (re)circulate media on their terms (Jenkins, 2006) and inevitably challenging the extent to which journalism, as a profession, may hold exclusive claim to the dissemination of news information (Deuze, 2005). Not surprisingly, this shift has often been met with resistance, or at least caution, on the part of professionals (Deuze, 2008; Robinson, 2007, 2010), and it

² My use of the terms "predict" and "predictive" does not suggest any kind of causal association. Rather, this usage merely reflects the standard language of regression models.

has challenged traditional understandings about how news emerges and spreads (Braun & Gillespie, 2011; Hermida, 2010; Lasorsa, Lewis, & Holton, 2011) and how it is received (Anderson, 2011). In this context, the core question becomes, how does journalism become a shared practice in a shared media space without losing the professional core that gives it authority and power to work on society's behalf?

While a full examination of this question—discussed at length in Singer et al. (2011)—is beyond the scope of this article, it is nevertheless instructive to consider where Knight News Challenge is positioned in the professional-participatory struggle. How that tension is navigated will affect the ultimate shape of the profession and its place in society. Thus, these considerations factored into the second research question:

RQ2. To what extent do participatory media features in particular predict advancing in the contest?

Understanding the Knight Foundation

Founded in 1950, the Knight Foundation is widely considered the leading nonprofit supporter of journalism in the United States. In addition, it has substantial influence in press-related issues around the globe. Its history cannot be understood apart from journalism: the foundation owes its very existence to a newspaper fortune, bequeathed by the eponymous Knight brothers and their mother from their holdings in Knight Newspapers. Although the foundation has always been a private foundation, independent of the Knight family's business interests, there is no mistaking its roots in journalism.

Not long after president and CEO Alberto Ibarguen came to Knight in 2005 by way of the newspaper business, he put the foundation through a major reevaluation that has affected nearly every one of its funding areas—perhaps none more so than journalism. The result has been a pullback from traditional efforts and a full embrace of news experimentation (for examples, see Downie & Schudson, 2009; Massing, 2009; Osnos, 2010; Sokolove, 2009; Wilhelm, 2009). To understand the scope of these changes, consider the foundation's well-branded commitment to its journalism program. Within the profession, Knight perhaps is best known for its mid-career training programs, including fellowships at Stanford, Michigan, and Harvard and vast training initiatives that have reached more than 100,000 journalists worldwide. Since Ibarguen's arrival, the foundation has contributed millions to supporting nonprofit news startups, a digital-focused reinvention of National Public Radio, and professional partnerships for investigative reporting. All of this investment in journalism—which grew from \$30 million in the 1980s to \$100 million in the 1990s to \$300 million in the 2000s—has made Knight the leading philanthropic funder of journalism, surpassing the efforts of other groups such as the Gannett-affiliated Freedom Forum, which has seen its endowment and ambitions shrink (see Baker, 2002; Heyboer, 2001).

Media Innovation Initiative

Even with this dramatic widening of Knight's commitment to the press, the foundation is clearly rethinking its priorities amid the disruption for newspapers and journalism generally. Consider this comment made by Iburgüen during a speech in which he rolled out the foundation's Media Innovation Initiative:

Over time, we've invested \$400 million to advance quality journalism and freedom of expression. *But the perhaps the most telling figure, the one that best describes our purpose and intent, is that in the last three years, we've committed more than \$100 million to media innovation initiatives.*³

The Media Innovation Initiative is the broad categorization for six projects covering everything from broadband Internet access to the high-level Knight Commission on Information Needs of Communities in a Democracy. This six-part initiative finds its purpose in what the Knight Foundation calls the "information paradox": Despite the growing abundance of information, people around the globe still struggle to find the information they need to make basic decisions about their lives in local community settings. "Knight Foundation wants to help *define* and *meet* the information needs of communities in a democracy. . . . Our strategy is experimental. Right now, nobody knows all the answers. But the more experiments we seed, the more approaches we explore, the more likely we are to find innovations that will serve communities and strengthen journalism in the digital age."⁴

Thus, *innovation conducted in the name of "information"* has become the foundation's major project (see Lewis, in press). The first and most important piece of the Media Innovation Initiative was the Knight News Challenge. Because the News Challenge represents the foundation's primary link between innovation and journalism, learning about its philosophy and outcomes is important for understanding the foundation's overall emphasis for and influence upon the journalism field.

Understanding the Knight News Challenge

The Knight News Challenge was announced in 2006, with its first grantees named in the summer of 2007. In the first three years, it attracted roughly 8,000 applications—from which 51 projects (or 0.006%) had won as of 2009.⁵ The awards during this period ranged from \$10,000 to develop a newspaper content management system tool, to \$5 million to set up the Center for Future Civic Media at MIT. The median grant awarded was \$244,000.

³ Here and elsewhere throughout this work, italicized emphasis is mine, unless otherwise noted.

⁴ This and other information about the Media Innovation Initiative had been located at <http://www.knightfoundation.org/mii/> but has since been moved or changed on the Knight Foundation website.

⁵ The latest round of winners was announced in the summer of 2011, but, because of limitations in the data and the timeframe of analysis, this study is limited to just the first three years (2007, 2008, 2009) of Knight News Challenge activity.

Contest Criteria

The Knight News Challenge (motto: "You Invent It; We Fund It") had three primary criteria: that projects (1) use digital, open-source technology, (2) distribute news in the public interest, and (3) test their concepts in a local geographic community. These criteria reflect Knight Foundation's general understandings about media today: Digital technologies are great at creating virtual communities and connections, but comparatively poor at helping citizens understand and act on problems at the geographic level where politics still takes place. Therefore, innovations need to address news and information needs in local communities, and they should be open-source so they are easily scaled and replicated in other communities if they are successful. The Knight Foundation was less concerned with invention (creating something from scratch) than with innovation (recombining existing products or services for new purposes), because, as Ibargüen (2009) made clear, "This is not a science prize, and we're not focused on figuring out the next 'widget.' We're interested in the ways a 'widget' can be used to bring communities together." In addition to the primary criteria, the challenge had more implicit criteria: for example, projects should encourage greater engagement with local democracy and should be able to scale up through replication in other locales.

How the Judging Worked

Knight News Challenge applications were screened by sets of judges chosen by the foundation. Among the judges were journalists, technologists, entrepreneurs, academics, and former News Challenge winners. The process involved different sets of judges both within and across years. In a given year, one set of judges—made up of Knight staff and outside experts—would screen the initial group of roughly 2,500 applications and whittle that group down to approximately 250 finalists. This elite 10% would submit more detailed proposals, which would be evaluated by the same judges and reduced to roughly 50 candidates, or the top 2% overall. At that point, a new set of judges—including Knight staff but mostly composed of outside experts—would review these top 50 and choose the class of winners. The number of winners varied each year, from as many as 26 in 2007 to as few as 9 in 2009. Moreover, these groups of judges differed from year to year, making it that much more difficult to draw precise conclusions from multiyear data. These complexities and limitations must be kept in context as I proceed to analyze the best (and only) quantitative data available on the most significant innovation contest in journalism.

Methods

Data

This study draws on data gathered by Latitude Inc., a consulting firm that does statistical data analysis for a number of media-related clients. In 2009, the Knight Foundation contracted with Latitude to conduct a content analysis of the proposal applications for the first three years of the Knight News Challenge—the 2007, 2008, and 2009 contest cycles. The coding was completed in September 2009. In all, Latitude coders analyzed 5,172 application documents: 243 for Year 1; 2,699 for Year 2; and 2,230 for Year 3. This represented a census of applications from Years 2 and 3 (2008 and 2009), but included only some finalists ($n = 221$) and not even all of the winners ($n = 22$) from Year 1 (2007). Including these

Year 1 data ($n = 243$) in my data set would have skewed the results of my analysis because it would not have allowed for an apples-to-apples comparison—for example, of Year 1 finalists/winners vs. Year 1 losers. Therefore, for purposes of validity, my analyses focused exclusively on data from the second and third years of the contest (2008 and 2009); despite this loss of Year 1 data, the resulting sample ($N = 4,929$) still constituted more than 95% of the original data. The data were found to be sufficiently reliable for analysis (an average of the Cohen's kappa for all variables was .56). The Knight Foundation gave me access to the final data set in March 2010, and my analyses were conducted shortly thereafter.

Unit of Analysis

The unit of analysis is the proposal application to the Knight News Challenge. Applicants were asked to complete an online form that posed basic questions about their project, its purpose, and its proposed execution. Proposals were limited to 1,000 words. Applicants were asked to name their proposed project and detail specifics such as requested funding, total project costs, and anticipated time to completion. Then applicants answered a set of open-ended prompts, such as these drawn from the 2009 application:

- Describe your project.
- How will your project improve the way news and information are delivered to geographic communities?
- How is your idea innovative (new or different from what already exists)?
- What experience do you or your organization have to successfully develop this project?
- What unmet need does your proposal answer?
- What will you have changed by the end of your project?

Because the proposal document was the unit of analysis, Latitude coders were asked to conduct their evaluation "holistically based on the full submission," according to the coding instructions. However, these instructions indicated that these questions "may help direct attention to appropriate sections of the application." For example, in assessing the background of an applicant, coders might pay particular attention to the section answering the question, "What experience do you or your organization have to successfully develop this project?" Nevertheless, on every variable, coders were asked to consider "all open-ended questions."

Coding and Variables

The dependent variable was categorical and referred to how far a submission went in the contest: whether it was an Applicant only (89%), a Finalist (11%), or a Winner (less than 1%). The coding scheme included 32 variables, most, but not all, of which were pertinent for this study. After a thorough read of all data, I chose those variables that seemed most relevant for this analysis. The vast majority of these variables were already coded as categorical data, but I recoded where needed to achieve a consistent set where 1 = *yes* and 0 = *no* across all variables. I will review the major variable clusters in Tables 2 and 3.

Background

There were three key variables related to one's background:

First, coders were asked to assess whether an applicant was made by (1) an organization or (2) an individual.

Second, coders classified the kind of organization or individual who had applied. For individual type, the options were (1) journalist, (2) social activist, (3) artist, (4) IT/software developer, (5) architect, (6) innovator, (7) researcher, (8) educator, (9) executive/manager, and (10) other. For organization type, the options were (1) newspaper, (2) media organization, (3) journalism school, (4) nonprofit, (5) local community organization, (6) research foundation, (7) university, (8) communication organization, and (9) other. Because I was primarily interested in assessing whether applicants had a "professional media" kind of background, I combined the "individual journalist," "newspaper," and "media organization" categories to create a new variable that would reflect any applicant who met any of those criteria (i.e., *Media Background* = 1, all others = 0).

Third, coders classified whether a project was focused on the United States (1) or elsewhere (0).

Features Related to Contest Criteria

I was interested in assessing the extent to which criteria spelled out by the Knight News Challenge—digital, open-source, innovative, focused on the local community, emphasizing democratic engagement, and replicable—appeared in those applications that advanced.

First, Latitude classified applications according to the platforms they intended to use: (1) web, (2) mobile, (3) print, (4) TV, (5) radio, and (6) human. Coders selected all that applied. The first two represent the *digital* criterion.

Second, the *open-source* criterion was not directly measured in this data set, but the software development category ("Does this product involve the development of software? Yes or no") was the best available approximation, given the applicability of "open-source" to some kind of software creation or modification.

Third, *innovation* was measured through the codebook question, "To what degree does this project involve creating something entirely new or combining existing elements?" The measurement used a 3-point scale where 1 = invention (creating an entirely new product) and 3 = innovation (taking products that exist and combining them in new ways, for new audiences, or for new purposes). I recoded such that a heavy emphasis on innovation = 1 and the other two responses = 0.

Fourth, the *local* criterion was assessed by classifying how applicants conceived of "geographic communities," as: (1) large city areas, (2) cities, (3) greater metropolitan areas, (4) states, (5) country region (e.g., New England), and (6) nation. Because of Knight's historical and contemporary emphasis on community in the smaller, metro-like sense (e.g., the "Knight communities"), I recoded this variable such

that a more narrow conception (neighborhood, city, or metropolitan area) of geographic community = 1 and the others = 0.

Fifth, the *democratic engagement* criterion was measured through the question, "Does this project directly improve individuals' engagement with local democracy and/or increase individuals' input in their local community?" Originally, a 3-point scale of "not at all," "a little bit," and "a lot (focus of the project)" was used. I recoded this variable such that "a lot" became "high community engagement" and = 1 and other responses = 0.

Sixth, the *replicable* criterion was assessed through the question, "Is this project able to be replicated in other local communities? (must be directly addressed in submission)." Those projects that explicitly addressed scalability were coded as 1 and others as 0.

Participatory Features of the Submission

I was interested in assessing the potential for user participation in proposed projects, but found that only two variables addressed this directly. The term *user manipulation* refers to those projects that offered answers of "some" or "a lot" in response to the question, "How much are users of this product/service able to manipulate/modify it?" *Crowdsourcing* refers to projects classified as "yes" in answer to the question, "Does this product/service feature crowdsourcing?"⁶

Additional Clusters of Variables

For *category*, coders could select all possible categories that might describe a project's focus: journalism, politics, social networking, technology, and entertainment. Some additional categories appeared in the original coding (e.g., health/medicine and environment) but were deemed less relevant for this analysis.

For *type of problem addressed*, coders were asked to select all that applied when considering "What type of problem or unmet need does this submission address?": (1) information flow/access, (2) community cohesiveness, (3) information accuracy/credibility, (4) organization of information, (5) economic/financial.

For *nature of the proposed solution*, coders were asked to select all that applied to categorize the proposed project: (1) aggregation of information, (2) transparency of information, (3) accuracy/credibility of information, (4) connectivity among data or data sets, (5) connectivity among people (individuals and/or organizations), (6) increase in information platforms.

⁶ The codebook went on to clarify the definition of this concept: "Crowdsourcing is the term for outsourcing a task to an undefined, generally large group of people or community in the form of an open call. For example, the public may be invited to develop a new technology, carry out a design task, refine or carry out the steps of an algorithm, or help capture, systematize, or analyze large amounts of data."

For the *nature of the information being shared*, coders were asked to select all that applied in judging whether the project's information would be shared: (1) one-to-many, (2) one-to-one, (3) many-to-one, (4) many-to-many.

Finally, for the *recency of the information*, coders were asked to select all that applied to categorize the timeliness of a given proposal's approach to information: (1) time-critical, (2) recent but not time-critical, (3) long-term and/or historical.

Data Analysis

Because the data were at the nominal level of measurement (1 and 0), I used a series of cross-tabulations and logistic regression to assess the impact of these variables on the criterion of advancement in the contest.

Results

Sample Profile

As Table 1 shows, in the 2008 and 2009 contest cycles, the median applicant was 39 years old, requested \$272,000 in funding, estimated total project costs at \$350,000, and expected to take 2 years from start to finish. Organizations accounted for just over half (53.6%) of all applications, and the most frequently declared category was "media organization," used to describe 20.9% of all applicants. While applications were classified separately as organizations or individuals, coders could check all that applied when assessing what type of organization or individual a given application appeared to represent. Therefore, an entity described as a "media organization" may also have been classified as a "local community organization" or "research foundation." Furthermore, because the coding scheme did not include explicit reference to TV and radio news outlets, these also would have fallen under the "media organization" label.

Perhaps the most interesting finding from this profile is that newspapers, by and large, ignored the Knight News Challenge, accounting for only 2.4% of all applicants. And this was in 2008 and 2009, after the News Challenge's class of 2007 winners had generated considerable publicity in the trade press. Even if I included the number of individual journalists (13.4%) who applied, that still adds up to less than 16% of all applicants.

The categories "media organization," "newspaper," and "individual journalist," terms indicative of the media background of applicants, represent a combined total of 35.8% of all applicants. In other words, the majority of News Challenge applicants were not media professionals in this sense; they were educators, entrepreneurs, local activists, software developers, or others—but, tellingly, they were from industries other than the media.

Table 1. Descriptive Statistics Profiling the Nature of Knight News Challenge Applicants Overall (N = 4,929) in the Contest Years 2008 and 2009.

Variable	%	Mean	SD	Median
Age of the applicant (where identifiable) [<i>n</i> = 4,380]		39.2	11.8	38
Amount requested for project [<i>n</i> = 4,715]		\$1,890,000	\$7,490,000	\$272,000
Estimated total cost of the project [<i>n</i> = 4,646]		\$1,500,000	\$2,310,000	\$350,000
Estimated time to complete project (years) [<i>n</i> = 4,443]		1.76	.96	2.0
Organization as the applicant	53.6			
Media organization	20.9			
Nonprofit	9.3			
Local community organization	9.0			
Communication organization	7.9			
University	5.3			
Journalism school	3.9			
Newspaper	2.4			
Research foundation	2.0			
Other	9.0			
Individual as the applicant	46.4			
Software/IT	13.6			
Journalist	13.4			
Social activist	6.9			
Innovator	6.3			
Educator	4.8			
Executive/manager	4.4			
Researcher	3.0			
Artist	1.4			
Architect	0.1			
Other	14.2			

Notes: Unless specified, *N* = 4,929. Percentages may not add to 100% because coders could choose all categories that applied in deciding what type of organization or individual a given application represented; e.g., an applicant could be coded both as a "media organization" and a "newspaper." Percentages are out of all applicants (e.g., 13.4% of all applicants, including individuals and organizations, were "individual journalists").

Distinguishing Features

RQ1. Based on a quantitative analysis of proposals, what are the distinguishing features of applicants, finalists, and winners of the Knight News Challenge, and how are those features predictive of one's proposal advancing in the contest?

To compare the breakdown of variables across the categories of applicant, finalist, and winner, I conducted a series of cross-tabulations to test for consistency in expected cell frequencies (see Table 2). To highlight a few of the noteworthy findings:

Background: The chi-square tests suggest that being an organization ($\chi^2 = 18.41, p < .001$) and having a media background ($\chi^2 = 14.99, p < .01$) were associated with advancing past the applicant stage.

Features Related to the Contest Criteria: There is an increase—from applicant to finalist to winner—in the proportion of proposals that included mobile as a platform for use ($\chi^2 = 17.52, p < .001$), proposed developing software ($\chi^2 = 15.40, p < .001$), approached innovation as recombination rather than invention ($\chi^2 = 52.58, p < .001$), and explicitly described how they might be scaled up elsewhere ($\chi^2 = 24.99, p < .001$). On the software development variable especially, the jump from finalist (41%) to winner (88%) was rather dramatic. Meanwhile, the differences among using the web as a platform, having a "local" definition of community, and pursuing high community engagement also were significant, and their proportions increased from applicant to finalist. Thus, as would be expected, all of the contest criteria were better represented among proposals that had advanced beyond the initial stage.

Table 2. Cross-tabulation of Applicants (n = 4,369) vs. Finalists (n = 535) vs. Winners (n = 25) of the Knight News Challenge in 2008 and 2009.

	Highest Level Reached			Significance Test	
	Applicant	Finalist	Winner	χ^2	Sig.
	(%)	(%)	(%)		
Proposal Characteristics (% yes)	89	11	1		
Background of Applicant					
Organization	53	60	84	18.41	***
Media background	35	42	56	14.99	**
Based in the United States	67	71	76	4.70	ns
Features Related to the Contest Criteria					
Web as a platform for use [†]	92	96	84	10.21	*
Mobile as a platform for use [†]	16	22	32	17.52	***
Software development	20	26	40	15.40	***
Innovation (rather than invention)	32	41	88	52.58	***
Local definition of "community"	58	66	64	11.88	*
High community engagement	44	53	48	13.27	**
Scalability (i.e., replication is explicitly stated)	34	43	60	24.99	***
Participatory Features of the Submission					
User manipulation	62	74	88	38.30	***
Crowdsourcing	36	48	60	33.17	***
Category					
Journalism	46	65	76	77.35	***
Politics [†]	9	12	12	6.07	*
Social Networking	45	51	44	7.11	*
Technology	24	32	32	15.64	***
Entertainment [†]	14	12	12	1.04	ns
Type of Problem Addressed					
Information flow/access [†]	82	92	100	41.87	***
Community cohesiveness	59	67	64	13.63	**
Information accuracy/credibility	46	48	24	5.66	ns
Organization of information	57	61	72	5.74	ns
Economic/financial [†]	14	9	32	18.67	***

Nature of the Proposed Solution					
Aggregation of information [†]	88	95	92	23.83	***
Transparency of information	58	69	20	47.77	***
Accuracy/credibility of information	41	44	16	8.02	*
Connects data or data sets	30	39	80	47.47	***
Connects people	74	75	84	1.54	ns
Increases platforms of information	53	64	64	25.74	***
Nature of the Information Being Shared					
One-to-many [†]	97	98	100	2.69	ns
One-to-one	55	50	36	8.27	*
Many-to-one	43	51	8	24.57	***
Many-to-many	65	74	48	19.12	***
Recency of the Information					
Time-critical	29	42	52	41.71	***
Recent but not time-critical	79	79	52	11.02	**
Long-term and/or historical	54	47	80	17.79	***

Notes: $N = 4,929$. Cell entries for applicant, finalist, and winner are percentages that have been rounded. For each variable $df = 2$. Cell entries under χ^2 represent the chi-square statistic. The symbol [†] denotes variables that each had one cell with an expected frequency of less than 5, and therefore should be interpreted with caution. * $p < .05$. ** $p < .01$. *** $p < .001$.

Participatory Features of the Submission: Projects that afforded user manipulation ($\chi^2 = 38.30$, $p < .001$) and crowdsourcing ($\chi^2 = 33.17$, $p < .001$) were increasingly better represented from applicant to winner, suggesting that such features were preferred by the judges—to the point that nearly 9 out of 10 winners offered some form of user manipulation.

Category: Projects classified as journalism ($\chi^2 = 77.35$, $p < .001$) made up three76% of the winners—significantly more than the relative percentages for applicants (46%) and finalists (65%). The other categories, even when statistically significant, seemed inconclusive, with the possible exception of technology ($\chi^2 = 15.64$, $p < .001$), which showed significant differences between applicant (24%) and finalist and winner (32% each) levels.

Type of Problem Addressed: A focus on information flow and access ($\chi^2 = 41.87$, $p < .001$) was manifest among 100% of winners, significantly more than among applicants (82%). The other findings in this grouping were less clear or non-significant.

Nature of the Proposed Solution: The most stark difference between applicants and winners in this grouping was the proportion of projects with a data-oriented solution ($\chi^2 = 47.47$, $p < .001$), which accounted for less than a third of applicants (30%) but grew to make up 80% of the winners. Other findings here were more muddled and uneven. Projects focused on aggregation of information ($\chi^2 = 23.83$, $p < .001$), transparency of information ($\chi^2 = 47.77$, $p < .001$), accuracy/credibility of information ($\chi^2 = 8.02$, $p < .05$), and increasing of platforms of information ($\chi^2 = 25.74$, $p < .001$) saw increases from applicant to finalist—which, as mentioned, is a more meaningful comparison than of applicant with winner.

Nature of the Information Being Shared: The one-to-many approach to distributing information was evident in nearly all proposals (and 100% of winners), whereas those projects focused on delivering information to the individual (i.e., one-to-one and many-to-one) were far less represented. A many-to-many information-sharing approach, perhaps the one most associated with social and participatory forms of media, increased from applicants (65%) to finalists (74%), but was less apparent among winners (48%). What is striking about this finding is that more than two-thirds of all applicants to the News Challenge (and even half of all winners) use a many-to-many approach, suggesting ample space for user participation.

Recency of the Information: Finally, only the time-critical classification ($\chi^2 = 41.71$, $p < .001$) was more represented at each stage of advancement, suggesting that, in the main, projects that focused on time-sensitive information—news—were preferred by judges.

Overall, there was a proportional increase from applicants to finalists on nearly every statistically significant variable. This indicates that proposals that advanced beyond the initial round generally included more of the content features that the Knight Foundation was hoping to find, as would be expected. Moreover, it is instructive to take stock of the content features that were less represented in moving from applicant to finalist: entertainment as the project category, economic/financial as the problem addressed, one-to-one in the nature of information flow, and long-term and/or historical information. Taken together,

these contrast with the Knight Foundation's intent to facilitate civic news and information (not entertainment), do it without profit (and therefore with less emphasis on the problem of business model), reach as many people as possible (not merely the individual), and focus on current events (as opposed to historical information).

Likewise, it is telling to note those content features that were overwhelmingly represented (85% or higher) among the winning proposals: innovation (as opposed to invention), user participation, information flow and access, aggregation of information, and a one-to-many approach. Each of these factors is in sync with the rhetoric of the foundation, including its emerging focus on information and participation.

Predictive Factors

Based on these cross-tabulation findings and earlier depictions of the contest, I would argue that the variability of the Knight News Challenge judging process and the small number of winners analyzed ($n = 25$) together make it difficult to identify the precise factors that might explain ultimate success in the contest. An assessment of how certain factors contributed to a proposal's advancement in the contest—from applicant to finalist to winner—would be more meaningful. Because less than 12% of all applications made it beyond the initial application stage, this process of advancing was a discriminating one and thus should reveal something telling about those factors that Knight considered most important in selecting its finalists and winners.

The data were recoded to distinguish applicants ($n = 4,369$) from advancers ($n = 560$). Because the data were nominal, a binary logistic regression was performed to predict applicants' likelihood of advancing, based on the extent to which certain features were manifest in their proposal. The outcome variable advancement was 1 = finalist or winner and 0 = did not advance. A test of the full model (see Table 3) was statistically significant ($\chi^2 = 347.122$, $p < .001$), and 88.6% of the cases were correctly classified. Table 3 summarizes the unstandardized B coefficients, the standard error, the Wald statistics, and the estimated change in odds of advancement (with a 95% confidence interval). The explained variance (Nagelkerke's $R^2 = .13$) is adequate.

A general review of Table 3 shows that the number of statistically significant variables drops substantially when each variable's influence is assessed in relation to others, with everything else held constant, relative to the number in Table 2. For example, the statistical significance of having a media background that was evident goes away in this model, as does the significance of the community engagement and scalability criteria (see Table 2).

Because all the variables were loaded in a single block, the logistic regression makes apparent the unique contribution of each factor and therefore allows the reader to identify the major predictors of advancement, based on the Wald statistics. To provide a simpler picture of the most salient predictors of advancement in the News Challenge, the most meaningful variables (i.e., those with a Wald statistic of 10 or higher) are listed in Table 4; they are sorted by odds ratios, depending on their positive or negative predictive impact on a proposal's likelihood of advancing in the contest, controlling for all other variables.

Table 3. Predicting the Likelihood that a Submission Advanced Beyond the Application Stage, Based on Features Identified via Content Analysis.

	B	(SE)	Wald	Sig.	Exp(B)
Background of Applicant					
Organization	.274	.098	7.844	**	1.315
Media background	.125	.099	1.587	ns	1.133
Based in the United States	.162	.105	2.379	ns	1.176
Features Related to the Contest Criteria					
Web as a platform for use	-.050	.220	.052	ns	.951
Mobile as a platform for use	.282	.119	5.600	*	1.326
Software development	.419	.117	12.910	***	1.521
Innovation (rather than invention)	.469	.106	19.575	***	1.599
Local definition of "community"	.320	.101	10.112	**	1.378
High community engagement	.084	.107	.613	ns	1.088
Scalability (i.e., replication is explicitly stated)	.219	.100	4.783	ns	1.245
Participatory Features					
User manipulation	.380	.117	10.542	**	1.463
Crowdsourcing	.390	.104	13.941	***	1.477
Category					
Journalism	.543	.107	25.934	***	1.722
Politics	.206	.149	1.908	ns	1.229
Social Networking	.138	.110	1.579	ns	1.148
Technology	.445	.110	16.221	***	1.560
Entertainment	-.181	.146	1.539	ns	.834
Type of Problem Addressed					
Information flow/access	.686	.179	14.643	***	1.985
Community cohesiveness	.272	.117	5.390	*	1.312
Information accuracy/credibility	-.045	.111	.162	ns	.956
Organization of information	-.172	.108	2.517	ns	.842
Economic/financial	-.575	.159	13.159	***	.563
Nature of the Proposed Solution					
Aggregation of information	.332	.212	2.447	ns	1.394

Transparency of information	.418	.114	13.467	***	1.519
Accuracy/credibility of information	-.109	.115	.897	ns	.897
Connects data or data sets	.373	.105	12.629	***	1.453
Connects people	-.255	.129	3.888	*	.775
Increases platforms of information	.115	.111	1.074	ns	1.122
Nature of the Information Being Shared					
One-to-many	.269	.349	.595	ns	1.309
One-to-one	-.492	.113	18.858	***	.611
Many-to-one	-.099	.114	.761	ns	.906
Many-to-many	-.059	.122	.232	ns	.943
Recency of the Information					
Time-critical	.288	.111	6.776	**	1.334
Recent but not time-critical	-.216	.130	2.762	ns	.806
Long-term and/or historical	-.368	.110	11.314	**	.692
Constant	-4.670	.474	96.934	***	.009

Notes: Entries are the result of a binary logistic regression that included all variables in a single model. Cell entries are B coefficients (unstandardized), standard error, Wald, χ^2 significance, and odds ratio. All variables were coded as 1 for yes or 0 for no. Dependent variable: advancing in the contest. Of all applicants (N = 4,929), 560 (11%) advanced as finalists or winners, and 4,369 (89%) did not. Correctly classified: 88.6%. For each variable df = 1. Model statistics: $\chi^2 = 347.122$, $p < .001$. Nagelkerke's R² = .134. Odds ratio > 1 = advancing in contest is more likely. * $p < .05$. ** $p < .01$. *** $p < .001$.

Table 4. A Summary of Key Predictors of a Knight News Challenge Application Advancing Beyond the Initial Stage, Sorted by Odds Ratios.

	B	(S.E.)	Wald	Sig.	Exp(B)
Positive Predictors					
Information flow/access	.690	.180	14.640	***	1.985
Journalism	.540	.110	25.930	***	1.722
Innovation (rather than invention)	.470	.110	19.580	***	1.599
Technology	.450	.110	16.220	***	1.560
Software development	.420	.120	12.910	***	1.521
Transparency of information	.420	.110	13.470	***	1.519
Crowdsourcing	.390	.100	13.940	***	1.477
User manipulation	.380	.120	10.540	**	1.463
Connects data or data sets	.370	.110	12.630	***	1.453
Local definition of "community"	.320	.100	10.110	**	1.378
Negative Predictors					
Economic/financial	-.580	.160	13.160	***	.563
One-to-one	-.490	.110	18.860	***	.611
Long-term and/or historical	-.370	.110	11.310	**	.692

Notes. These variables are extracted from the previous logistic regression model (see Table 3 notes for details). The higher the odds ratio above 1.0, the greater impact of that variable in increasing the likelihood of a given application's advancement in the Knight News Challenge, controlling for all other variables in the model (see Table 3). By contrast, the lower the odds ratio below 1.0, the greater the effect of that variable in reducing the odds of advancing in the contest, controlling for all other variables in the model.

From Table 4, we find that information flow/access and journalism appear to stand apart in predicting an applicant's success in the News Challenge. Controlling for all other variables in the model, the odds of advancing increased by 99% if a proposal sought to address problems related to the free flow of and access to information, and they increased by 72% if a proposal could be categorized as a form of journalism. These two variables could be thought of as a news-and-information grouping. The remaining positive predictors—innovation, technology, software development, transparency of information, and connecting data or data sets—could be thought of as a technology grouping because the words innovation and transparency have become almost synonymous with digital media initiatives today. Each of these predictors increased the odds of advancing by roughly 50%. Two other predictors—crowdsourcing and user manipulation—could be classified as the participation pairing because of their emphasis on putting some degree of control in the hands of the crowd. These factors increased the odds of advancement by 48% and 45%, respectively. The final positive predictor, local definition of "community," suits the News Challenge's interest in projects being focused on serving a geographically relevant population—in this case, the more narrowly a proposal defines "local," the more likely it will advance in the competition.

The negative predictors listed in Table 4 point to content features that were associated with not advancing in the contest. The odds of advancement were reduced by 44% if the proposal sought to address an economic/financial problem, by 39% if a proposal intended to facilitate one-to-one information flow, and by 31% if a proposal took long-term or historical information as its focus—again, when all other variables in the model are controlled. Considered together, these three variables are noteworthy for how they differ from the News Challenge's emphasis on (1) the problem of information flow and access (rather than economic/financial concerns); (2) the need to have many—in the community, in the crowd—engaged in civic information (rather than one-to-one communication); and (3) current news (rather than history).

RQ2. To what extent do participatory media features in particular predict advancing in the contest?

In this logistic regression model, the participatory features of user manipulation (Wald = 10.54, $p < .01$, $\text{Exp}(B) = 1.46$) and crowdsourcing (Wald = 13.94, $p < .001$, $\text{Exp}(B)=1.48$) both positively predicted advancing in the Knight News Challenge. In other words, when all other things are held constant, proposals that included features designed for end user participation were nearly 1.5 times as likely to advance in the contest. This suggests that an emphasis on participation is more often than not a discriminating factor in being chosen to advance in the News Challenge competition.

Discussion and Conclusion

The purpose of this study was to examine the nature of the Knight News Challenge by examining content analysis data for nearly 5,000 application proposals. Because of the contest's importance to the Knight Foundation and the journalism field's ongoing innovation, the larger aim of this study was to develop a scholarly baseline for thinking about the potential direction of the industry and impact of the News Challenge.

Overall, numerous variables contributed significantly to an applicant's likelihood of advancing in the Knight News Challenge during the 2008 and 2009 contest cycles. Most prominent among these were factors that focused on news and information, technology, participation, and a hyperlocal definition of community. Each of these themes works to reinforce how the Knight Foundation framed innovation generally and the News Challenge contest particularly. The two most predictive individual variables, information flow/access and journalism, speak to the dual emphasis that Knight has placed on journalism (throughout its history) and information (through more recent efforts)—a distinction that is explored more fully in Lewis (in press). The News Challenge was marketed as a news and information contest, reflecting Knight's interest both in doing journalism and in allowing for all kinds of civic information—including that produced by citizens—to flourish and flow, under the assumption that more is certainly better than less information in the public sphere. Furthermore, Knight increasingly has become interested in the issue of information access, making the digital divide and related concerns a central component of its strategies. The most prominent example is in the Knight Commission report that urged the federal government to make national broadband Internet a priority—indeed, the digital analogy to the public good achieved by the interstate highway system. Additionally, the technology cluster of variables not only fits with the contest's digital criterion but also suggests a kind of technological determinism that is apparent in Knight's embrace of technology as a driver of innovation.

The presence of the participatory variables among the strongest predictors of advancement is also significant. Whereas the other major predictors (news and information, technology, and hyperlocal) were closely related to the contest's criteria and therefore should be expected to figure strongly in the judging process, Knight News Challenge applicants were not required to make user participation part of their projects. Nevertheless, the data indicate that participatory elements such as crowdsourcing and user manipulation were in fact strongly associated with selection as a finalist or winner, all other things being equal. This underscores Knight's turn toward faith in collective intelligence (Lévy, 1997) and its interest in promoting user participation in journalism as a normative goal. In the negotiation of professional control and open participation, these findings would suggest that Knight prefers the latter, encouraging news innovators to engage audiences more fully in the process of news production. One of the more prominent examples to emerge from the Knight News Challenge is Spot.Us, a platform for community-funded reporting that uses both elements: crowdsourcing in the form of "crowdfunded" financial support, and user participation in the form of user-driven contributions to the news-gathering process (Aitamurto, 2011).

Overall, in these findings there is evidence of a subtle movement away from an emphasis on professional expertise (which was Knight's stance, historically) and toward one of crowd wisdom, of embracing possibilities enabled by networked technologies. Perhaps it is because of this turn away from the professional core of journalism that the contest featured surprisingly few submissions by newspapers, which by and large appear to have ignored the News Challenge, accounting for only 2.4% of all applicants, even in 2008 and 2009, after the contest had received substantial coverage online. Looking beyond newspapers, roughly two-thirds of applicants were not media professionals in the traditional sense. This reinforces the idea that the foundation, in promoting the contest and designing it, deliberately sought ideas from beyond the journalism field. In doing so, Knight pushed out the boundaries of journalism—both in the rhetorical framing and the material funding of news innovation—to create a space for an interdisciplinary style of innovation that incorporated input from a variety of sectors. So those applications

that advanced to the finalist and winner stages tended to include forms of participation and distributed knowledge (i.e., crowdsourcing and user manipulation) and other features (e.g., software development) not typically associated with journalism.

There is, however, a need to more fully conceptualize the nature of this proposed participation evident in the content of News Challenge applicants, especially because of the limitations of the logistic regression model. With its Nagelkerke's R^2 of 13.4%, substantial variance must be explained by other factors—among these, perhaps, are other variables associated with participation. Qualitative research could address this gap by affording a more holistic assessment of content and its context, as undertaken more broadly in Lewis (2010). Overall, however, these findings offer a significant step forward in understanding one of the most important pieces in the future-of-journalism puzzle, and they indicate that open participation may be favored over professional control in the context of journalism innovation and nonprofit support from the Knight Foundation.

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