Superpowers: The digital skills media leaders say newsrooms need going forward
By Mark Stencel and Kim Perry

News organizations want to hire new kinds of journalists who combine coding, visual production and audience acquisition skills with traditional reporting competence and even a little entrepreneurial savvy. This report describes the "superpowers" news leaders say they need now, and why.

http://towknight.org/research/superpowers/

Introduction

The news industry is in the market for heroes — great journalists who also have the specialized skills it takes to tell the stories and build the products that audiences want, need and expect.

You don't need Clark Kent's super hearing to pick up that cry for "help wanted." The message was loud and clear in responses from 31 news

organizations to an online questionnaire on hiring priorities, two dozen follow-up interviews and a review of job postings from across the United States.

"The best new employees are the ones who have a superpower," said Drake Martinet, vice president for product at VICE Media. "They get hired for writing, editing, audience development…. But they also can think in the language and discipline of other parts of the organization."

Martinet and nearly 40 other individual participants detailed their staffing priorities and described the combinations of skills they need now from the people they hire.

When asked to identify five to 10 top hiring needs for the coming year, the news organizations that responded to our questionnaire prioritized skills in three areas: coding; audience development and data; and photo/video production. Two thirds of the organizations chose "coding/development" and "audience development/user data and metrics." Nearly 60 percent chose visual storytelling/editing."

When we asked survey participants to narrow their choices to just three top hiring priorities, the same three skills — coding, audience development/data and visual storytelling — led that list as well.

On the other end of the hiring priority list were six skills that predate or emerged early in media's transition to digital distribution. Sought by less

than a quarter of newsrooms surveyed, they included blogging; content management and editorial systems; copy/self editing; fact checking/verifying sources; and rights management.

Many employees at the long-established news organizations we surveyed presumably possess these abilities already — so the fact that they ranked low among overall hiring priorities may reflect oversupply more than lack of demand. "We don't lack skills in terms of the mechanics of publishing to a CMS or editing," said Mark Briggs, director of digital media at NBC affiliate KING-TV in Seattle. But interestingly, the half dozen newsrooms that did prioritize copy editing and self-editing abilities weren't cloistered hideaways of "old-media" stodginess. Five of the six were digital organizations from the start: AJ+, First Look Media, Quartz, Storyful and Texas Tribune.

The people we asked to answer our questionnaire weren't selected randomly, so the survey wasn't scientific. It's impossible to say whether the personnel needs reported by those surveyed are typical across the industry or to estimate the likelihood that they are not.

However, we intentionally surveyed newsroom leaders at a wide variety of media companies: organization that started as traditional publishers and broadcasters and organizations that began as digital natives; local and nationally focused outlets; small newsrooms and large; for-profits and not-for-profits; outlets that cover niche topics and those reporting general

news. What we heard in follow-up interviews and found in nearly 120 job postings collected over the same period reinforced what we saw in the survey results.

Taken together, these findings offer a guide to trends in editorial hiring that we believe will be useful to media managers, journalism educators, and those seeking to enter or move up in the profession — particularly at U.S.-based news organizations. Moreover, since the data comes from some of the industry's top players and respected organizations, it adds an executive-level perspective to other research on the evolution of newsroom skills.

Key findings

Our survey asked media leaders to identify their immediate hiring priorities, using a list of 21 skillsthat we concluded were needed, in-demand or both in newsrooms — based on our editorial hiring and training experience, a review of current job listings and previous research. Based on survey results and the comments we received, we believe the skills fall into two categories. The first,**Foundational Skills**, are those that newsrooms have long relied on to cover and uncover news and present it on established media platforms, such as print, broadcast and "web classic" (the laptop/desktop web experience). The second, **Transformational Skills**, are abilities that media organizations

need to address and adapt to acute, broad and ongoing changes in the news audience, as well as technology for both collecting and distributing news.

Among our findings:

Superpowers Needed — Newsgathering Competence Isn't Enough: The skills we labeled Transformational were in greater demand than the ones we called Foundational, based on the answers to our questionnaire. Coding/development, audience development/user data and metrics, visual storytelling, digital design, and social media distribution were the top five hiring priorities among the newsroom leaders surveyed. All of them fall into our Transformational skills category. Only one skillset that we categorize as Foundational — reporting, writing, editing – was a hiring priority in more than half of the newsrooms surveyed.

In the open-ended answers to our questionnaire and in follow-up interviews, however, we repeatedly heard that the most valuable hires are those who bridge the Foundational and the Transformational. That means potential employees who pair the new, specialized knowledge that news leaders say they most urgently need with a deep understanding of their organization's editorial mission and essential practices are the ones who have the real superpowers. In the words of a 2015 job description for an interactive news developer in the McClatchy D.C. bureau, "Expect your journalism skills to be as important as your programming skills and visual sensibility."

New Leadership Skills Needed by "Flat", Multi-disciplinary Newsrooms:
News leaders are eager to foster a "product"-focused mindset in their
newsrooms, hiring people who have a vision to create and oversee editorial
projects, services and experiences that will connect with their audiences.
Half of the organizations that answered our questionnaire said product
ownership and development was an immediate hiring priority, and others
said they had already made such hires.

Project managers — who often coordinate the interdisciplinary work it takes
to create and maintain editorial products — were less in demand, as were
managers. However, follow-up interviews and job postings suggested that
news leaders often look for people with project management skills when
hiring a variety of other production, editing and managerial positions. The
interviews also suggested that news organizations still value good managers,
but frequently look to develop and train them, not hire them. Leadership
and management ability "is very hard to find and undervalued," said
Melanie Sill, a veteran newspaper editor who is now vice president of
content at Southern California Public Radio in Pasadena. "The hardest jobs
to fill are jobs that need people who are skilled journalists with technical
mastery and who can manage people."

Business and Audience Awareness a Must: Traditional ethical barriers still
stand between newsroom and business staffs, but conversations across those
borders are far more common than they were in days when large audiences

and big profits were a given. About two-thirds of our 39 participants, including most of those who ran non-profit news organizations, said they believed that people in their newsrooms need a fundamental understanding of the economics and business-side of the news industry. Even among those who said they disagreed, about half made clear in their answers that they expected employees to recognize and respond to competitive and market forces within the industry. And no market force matters more than the profound changes in the ways that people get their news, and how those audience changes determine what a news organization can afford to spend on its journalism. "We all have to learn more about, and pay closer attention to, the daily habits of our digital audience," said Rene Sanchez, editor and senior vice president of the Star Tribune in Minneapolis.

Markets Drive Hiring Priorities: The hiring priorities of local news organizations differed significantly from other kinds of media companies, especially when it came to Transformational needs at newspapers and other outlets based in small- to medium-sized media markets. Visual storytelling, for instance, was even more of a priority for most of these local news organizations (5 of 7, or 71 percent) than it was for all of the participants (18 of 31, or 58 percent). But know-how in coding, audience development and product ownership were not. Most media companies (22 of 31, or 71 percent) said coding skills were a hiring priority, but it was far less important in small- and medium-market outlets (2 of 7 or 29 percent).

There were similar differences between the eight newspaper companies in our survey compared to other kinds of media outlets, but five of the newspapers were also among the small- and medium- market companies, so a broader survey would be needed to more definitively sort out whether medium or market-size matters most.

Methodology

Our findings were gathered over several months in 2015, based in large part on answers from 39 selected news leaders at 31 different media companies. All of the participants were based in the United States, but several worked for international news organizations. Each leader responded to an online questionnaire with closed- and open-ended questions over four weeks in July and August. We conducted two dozen follow-up interviews by phone and/or by email in the weeks that followed. We also compared the answers we heard with the duties and abilities described in more than 100 publicly posted job descriptions collected from various journalism careers sites between April and mid-July.

For the questionnaire and interviews, we sought high-level decision-makers from organizations with a range of audiences (local, national, global, niche) and business models (non-profit and commercial). We also looked for media leaders from both organizations that began as digital companies and those

whose current offerings evolved from a tradition of print or broadcast media.

Our participants included:

- Eight people from seven local news organizations in small- to medium-sized U.S. markets — companies whose primary audiences were not in the top-10 U.S. media markets;
- 11 people from eight larger local news organizations, including several with significant national and even international audiences;
- 15 people from media organizations whose primary audiences were national and/or international;
- Three people from niche companies with highly targeted audiences, including a specialized social-media news service used by other news outlets;
- and two people representing large, diversified media companies, including one with significant local holdings in the United States

While we deliberately questioned leaders from a variety of news organizations, this report is not based on statistically valid survey research, as noted above. Some important media categories, such as TV news and magazines, were under-represented among our final list of respondents, which is included at the end of this report. Since we were trying to solicit timely answers from some of the busiest people in the business, our

respondents also included former colleagues and clients, as well as others whom we and the Tow-Knight Center faculty and staff also know very well—connections we also will detail at the end of this report. But given the diversity of the newsrooms represented and the leadership roles that many of our respondents have played in the industry and various media associations and organizations, we still think the group we selected was a good one to speak for their peers.

Superpowers

Journalism still needs great journalists. But what most of the 39 media executives and senior editors we heard from for this report said they really need are talented news people who also have the specialized skills and abilities it takes to make sure great journalism remains relevant to quickly changing audiences.

"We can find people with solid writing and traditional reporting skills, and [other people with] the ability to use twitter, to use social," said Mandy Jenkins, news editor for the social-media reporting and verification service Storyful. "But for combining those skills to bring critical thinking and investigative research to social — that's harder."

A job description for a 2015 opening at the Los Angeles Times telegraphs the new hybrid expectations — even for a deputy editorial page editor: "Like

every job at The Times, this is a multimedia, multi-platform position," the job posting explained. "….[T]he deputy editor will need to be thinking about our digital presence, web-only features, online projects and about how to increase the presence and popularity of The Times' opinion content on the Internet."

It's not just media companies with staffs and audiences the size of the Los Angeles Times that are thinking this way. In southwestern Illinois, for instance, the McClatchy-owned Belleville News-Democrat was in the market for a multimedia reporter — someone capable of "shooting videos and learning how to produce interactive graphics," plus a willingness "to use social media as part of the daily beat routine." Oh, and "database journalism skills are a plus" too, the editors added.

In Lawrence, Kan., the locally owned Journal-World was looking for a digital reporter who could crank out news copy and beat coverage. But the editors also wanted someone who knew their way around digital analytics and came with "strong social media skills" and "experience with data visualization."

After years of newsroom cuts and buyouts, it's a buyer's market for editorial talent, so multifaceted, cross-platform job postings like these are fairly common. But many media decision-makers also know from experience that work qualifications are easier to write than they are to find. Kevin Roose, news director at Fusion, said he wants people on his staff who are as good at cultivating sources and leads on social media as they are at uncovering

information in a FOIA request. "I wish those skills weren't so far apart," he lamented. "Those people are rare birds."

Almost every news media leader is in the market for a version of the same thing: new talent with the super skills they need to rescue their organizations from digital doom. But which skills matter most — and to whom?

To answer that question, we asked media executives and senior news leaders to tell us about their hiring priorities among 21 skills. We chose the skills based in large part on the duties and responsibilities found in dozens of job postings, as well as our own experience leading newsrooms, running editorial training programs and consulting for news media clients. We also looked at the skills detailed in a broader 2014 survey of news people and journalism educators published by the Poynter Institute for Media Studies. Based on the answers to our questionnaire, we divided those skills into two broad categories:

Foundational Skills: Well-established abilities that newsrooms rely on to cover and uncover news and present it on established media platforms, such as print, broadcast and "web classic" (the laptop/desktop web experience)

Transformational Skills: The abilities that newsrooms need to address and adapt to acute, broad and ongoing changes in the news audience, distribution, editorial practices and presentation.

We didn't assume that digital skills were inherently Transformational, or that pre-digital skills are necessarily Foundational. Instead, we defined them based on whether news leaders said they needed particular abilities to help their organization adapt to ongoing shifts in the media business.

For instance, photography and videography skills are not new. But adapting photo and video techniques for an audience that increasingly relies on mobile and social media was clearly a factor when our respondents prioritized visual storytelling/editing, so we labeled that skillset Transformational. Blogging, on the other hand, plays a significant role in many organization's digital news strategies. But we labeled it Foundational because its key practices have been well established for a decade and a half.

Innovation is essential and happens in both Foundational and Transformational skills, of course. The distinction here, in terms of a news organization's hiring priorities, is the purpose of the innovation: Foundational innovations make better journalism. Transformational innovations make better journalism organizations. The people who pair Foundational and Transformational skills help do both. These are the people who are most in demand — the news people with superpowers.

FOUNDATIONAL AND TRANSFORMATIONAL PRIORITIES

Number and percent of 31 news organizations surveyed that said these skills were among their immediate hiring priorities for the coming year.

Coding/development	22	71%	Transformational
Audience development/user data and metrics	20	65%	Transformational
Visual storytelling/editing (photo/video production)	18	58%	Transformational
Digital design (for web, mobile, applications)	17	55%	Transformational
Social media distribution	17	55%	Transformational
Journalism essentials (reporting, writing, editing)	16	52%	Foundational
Product ownership/development (oversight, vision and direction of projects, services or experiences)	16	52%	Transformational
Digital essentials (understanding of changing audience expectations/behavior and competitive landscape)	15	48%	Foundational
Social/engagement reporting	14	45%	Transformational
Data reporting	13	42%	Foundational
Beat reporting/specialized reporting	12	39%	Foundational
Cross-platform storytelling/editing	12	39%	Transformational
Editorial graphics/animation	12	39%	Transformational

User experience	12	39%	Transformational
Audio production/editing	9	29%	Transformational
Management (process, people and decision-making, budgets)	8	26%	Transformational
Blogging	7	23%	Foundational
Project management (timelines, coordination, process)	7	23%	Transformational
Content management and editorial systems	6	19%	Foundational
Copy/self editing	6	19%	Foundational
Fact checking/verifying sources (*)	3	10%	Foundational
Rights management (photo usage, etc.)	3	10%	Foundational

* We intended this question to deal with the kind of reporting done by news sites such as FactCheck.org and PolitiFact, and the kind of social verifcation and curation work done by organizations such as First Look Media's reported.ly and News Corp-owned Storyful — important work that applies traditional journalism standards to new forms of information distribution. We do not think that was clear to our survey takers.

Audience First

What does it take to be the digital editor at a local news outlet in 2015? When the Gazette Company in Cedar Rapids, Iowa, was seeking a digital news editor, it wanted "strong news judgment" — someone who could "jump in with strong and innovative coverage plans, sometimes on little notice." Exactly what you'd expect from an employee-owned media company that operates a 130-year-old newspaper, a local TV station and related websites.

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But above all that, at least in the job description, The Gazette also wanted an editor with some distinctly 21st-century, audience-focused know-how, including "the use of A/B testing and heat mapping and other user testing":

"Our ideal candidate will be able to analyze analytics, identify trends and respond with the most engaging experiences possible. They'll understand SEO, best uses of social media and will help coach the news team on digital tools and best practices. They'll be able to understand digital (and mobile) usage of our audience…. They'll have experience developing day-parting

strategies and using analytics to predict content consumption and how to best use resources."

These skills are an entirely different kind of "who, what, where, when and why" than most j-schools teach.

In today's news organizations, building audience is almost everyone's business. And the high-end skills the Gazette was in the market for also seem to be in high demand in many newsrooms.

About two-thirds of the organizations that responded to our questionnaire (20 of 31 or 65 percent) listed expertise in audience development and user metrics among their top five-to-10 hiring priorities for the coming year.

"The skills you need increasingly are a real focus on how a piece of journalism is being consumed — a mobile form versus a tablet or on the desktop," said Raju Narisetti, senior vice president for strategy at News Corp. "That then speaks to the type of experience you're trying to create….Where and how are people experiencing the story?"

Breaking out the responses by target audience, news leaders from local media companies answered much the same way, with two-thirds of those organizations (10 of 15, or 67 percent) prioritizing audience and metrics. But that may not always be the case — especially in media markets the size of Cedar Rapids.

There was a noticeable split between the answers from news leaders at companies with small- to medium-sized local audiences (those that were not in the top-10 U.S. media markets) and the other organizations we heard from. In the small- to medium-sized markets, fewer than half (3 of 7, or 43 percent) listed audience development and metrics as a priority. In larger markets, most local news organizations (7 of 8, or 88 percent) said they were on the hunt for high-end audience expertise. (In some cases, such as the Washington Post and New York public radio station WNYC, these larger "local" outlets have significant national and even international audiences and often seem to share needs with organizations that focus mainly on those markets.)

Social media is a big part of many news organizations' audience strategies. While those skills were not ranked as highly as audience development and user metrics, more than half of all the respondents (17 of 31, or 55 percent) listed social distribution as one of their hiring priorities. And slightly less than half (14 of 31, or 45 percent) said they would be looking for people with social engagement and social reporting skills.

Social distribution in particular is about more than understanding the art and mechanics of crafting a post on one platform or another. It's about understanding how each post affects behavior and how that behavior relates to an organization's overall editorial and audience strategy. "People still don't really understand Facebook or Twitter and why people click on

things," said Annie-Rose Strasser, a former managing editor at Buzzfeed who now is with the Gimlet Media podcasting network. "It's so valuable to understand that — if you don't have people who understand that, it's like shooting into the dark."

But here again the questionnaire suggested differences between local organizations in smaller media markets and the other companies we talked to. In small- and medium-sized markets, fewer than half of our respondents (3 of 7, or 43 percent) prioritized social distribution and fewer than a third (2 of 7, or 29 percent) listed social engagement/reporting.

The overall importance of audience to most media leaders was also plain enough from the journalism job postings gathered for this report. Among those openings were titles such as:

- Audience Development Manager
- Digital Engagement Editor
- Social and Audience Producer
- Social Media Producer
- Social Media Editor
- Social Media Reporter/Editor

Roles like these typically involved responsibilities for posting and engaging audiences on specific social channels; monitoring site analytics and user trends; and sometimes training others to handle some of these duties.

But we also saw some of these same responsibilities embedded and emphasized in the duties for other kinds of open news jobs, up and down the organizational charts of various employers.

At Tribune-owned WPIX-TV/PIX11 News in New York, a Web producer was expected to handle breaking news and a little video editing. But the "ideal candidate" would also be "expert in social media, SEO and other tools to grow PIX11's digital audience while increasing engagement with viewers." That meant managing social media accounts "for breaking news, story promotion and audience engagement (Facebook, Twitter, Instagram, Snapchat)"; "live tweeting and audience engagement around newscasts"; and "knowledge of web metric tools such as Google Analytics." The station's ultimate goals: "to help grow our audience" and "experiment with new ways to tell stories and reach a wider audience."

Likewise, Gannett's Indiana Media Group was seeking a digital producer for the Muncie Star Press and Richmond Palladium-Item who came ready to "collaborate with editors to maximize social media presence." This producer would combine "exceptional core journalism skills (reporting, producing and editing)" with "advanced knowledge of social media," the know-how to "engage fan base on digital platforms," and the "ability to interpret audience data."

Similar duties appeared in the postings for other front-line newsroom positions — from a freelance digital journalist at KNBC-TV/NBC4 in Los

Angeles (who would use a list of social media services "to report and to engage our audience") to a digital platforms producer for the Minneapolis-based public radio program On Being (who would update "social media spaces" and help "reach audience growth goals for each of our digital channels, including "Facebook, Twitter, Tumblr, Instagram, etc.").

When we asked if their companies had created positions in the past year that didn't previously exist in their organizations, many survey participants mentioned roles directly related to audience development, user engagement and/or social media. Among them:

- a digital producer at KING-TV/KING5 in Seattle "to focus on interactive TV projects, melding social media engagement with TV programming"
- a team of producers at the Al Jazeera Media Network's AJ+ to "create content specifically for social networks... [and] engage with the audience in those spaces authentically and create content designed for those spaces and for those communities"
- a motion graphics producer specifically "for mobile/social platforms" and a Snapchat editor at VOX Media
- a head of paid social media for Vice, which also created a "platform team" to lead "growth of our digital sites through expert use of analytics.... coupled with editorial intelligence and a deep understanding of habits across the web."

Another sign that these skills were in high demand: six of the 39 news leaders who answered our questionnaire noted that they had difficulty finding qualified applicants for audience development, analytics and social media positions.

IN THEIR WORDS: AUDIENCE

For leaders from some of the most sophisticated digital media organizations, building new audiences is not simply a matter of deploying social media skills or crunching user data. It's how those skills are brought together to create editorial experiences that are grounded in an audience's behavior, needs and expectations.

Annie-Rose Strasser, former managing editor at Buzzfeed (now with Gimlet Media):

"The underlying thing is that people need to understand the way content is consumed….There needs to be more data analysis as related to audience information. Being a reporter hasn't changed, but the platforms have, so you have to understand what fits on each platform."

Trei Brundrett, chief product officer, Vox Media:

"Typically, newsrooms can find people who use analytics or can drive social traffic, but these tend to be more tactical. It's more difficult to find people interested in the ecosystem — who have an understanding of how to serve the audience in multiple places, even if that means the traffic isn't returning to your site. That level of work and talent is more difficult to find."

Daniel Eilemberg, chief digital officer and senior vice president, Fusion:

"Data will increasingly play a bigger and bigger role in newsrooms…. The role of analytics is changing for us as a media organization that is so widely distributed, on so many platforms — beyond social media platforms. Just to understand what our audience looks like today. It's hard to find people who really understand analytics across platforms. It's a really new thing and there are new platforms emerging every day."

Keith Jenkins, formerly general manager, digital, National

Geographic (now at the National Geographic Society):

New hires "really should have a familiarity with social media — not just social media as a way to stay in touch, but looking at it as a publishing platform. And [they should] understand that the changes that happen in the digital landscape first appear in the social media environment, because it's so rapid and 24-hour, non stop. It's a good place to pick up on trends. You don't have to use everything, but you should use something."

Between the lines: coders and developers

Coding and development know-how was the top hiring priority for the news organizations we surveyed — but not for all kinds of media companies. And news leaders also meant very different things when they talked about these skills and their particular needs.

More than two-thirds of the media companies that responded to our questionnaire (22 of 31, or 71 percent) said coding and development skills were among their top five to 10 needs in the coming year. That held true for

many categories — especially among organizations that began as digital publishers (11 of 13, or 85 percent) and for all 11 of the non-profit news outlets that responded, including five public radio companies and a number of primarily digital startups.

Companies that publish newspapers, on the other hand, were far less focused on coding and development (3 of 8, or 38 percent). The difference was even greater for companies based in small- to medium-sized media markets (2 of 7, or 29 percent) — all but two of which were newspapers, and only one of those papers said coding and development was among its hiring needs.

At the same time, editors from two small-to-medium market newspapers joined other media leaders in noting that coding abilities were hard to come by even when those hires have been a priority.

In open-ended answers, seven news leaders noted that their organizations had newly created positions with titles such as developer or engineer. Nine news leaders also said they had a difficult time finding qualified candidates to fill those kinds of jobs, as well as positions they described as technologists and "journalist coders." And as Fusion's Daniel Eilemberg noted, finding those "with experience and/or interest in media" only made the hiring challenge greater.

The news industry's needs for coding skills mainly fall into two categories —
both of which require some mix of technical and editorial experience:

- **Newsroom-friendly coders:** Those with enough of an editorial
  sensibility to work with their journalist colleagues on everything
  from big editorial projects to publishing systems to new news
  products; and
- **Code-friendly journalists:** Those with enough development skills
  to build out editorial features and products on their own, working
  closely with (and, frankly, sometimes around) the teams who
  have direct technical responsibility for an organization's overall
  digital presence.

In smaller news outlets, there may be more mixing and matching of these
abilities and responsibilities, with much depending on a company's
organizational chart (is digital publishing part of or separate from the
newsroom?) and its corporate digital strategy (is the news organization part
of a larger media company that relies on shared digital systems across all of
its properties?).

The job descriptions gathered for this report were filled with examples of
both kinds of positions.

For instance, the vacancy in McClatchy's Washington bureau for a digital
news developer required someone with a track record for "conceptualizing
and building data visualizations and interactive graphics." It also required

"advanced experience with HTML5, CSS, JavaScript (jQuery); an understanding of responsive design and proficiency with interaction design and user interfaces; familiarity with mining and manipulating data and Web scraping; comfort with graphics and layout."

Such detailed technical requirements are not as unusual to see in an editorial job as they used to be — and at almost any level of the organization. While a Chronicle of Higher Education announcement for interns said the company was looking for applicants with "a strong interest in pursuing a career in journalism," the job posting also noted that "experience with web production… and front-end coding are a plus."

Storyful news editor Mandy Jenkins said organizations like hers find that it's sometimes easier to train journalists on technology than it is to "find tech people who have the journalism." "It's way harder to make a non-journalist think like a journalist," she said. "It's much harder to train someone to ask a good question and bring a critical eye to content."

Texas Tribune editor Emily Ramshaw echoed that, and said they were seeing an increasing number of journalists who already came with some combinations of coding and reporting experience: "We're seeing a breed of journalist that can do both…. They have the ability to do coding and pick up the phone. It used to be you got one or the other — but now it's coming in one package."

News organizations do have technical positions that do not require experience working a beat or cultivating news sources. That's especially true at organizations that depend heavily on high-end digital distribution. In the time we gathered job postings, we saw numerous openings at the Bloomberg finance news service for software developers, applications developers, software engineers and infrastructure developers. Bloomberg also was hiring research scientists to work on "projects at the intersection of machine learning, natural language processing and computational linguistics."

Familiarity with news processes and culture matters most in front-line tech positions. At the Washington Post, for instance, a job announcement for a system support specialist made "experience with web and print publishing systems and knowledge of user workflows" sound as important as familiarity with data formats such as xml and json and experience troubleshooting website rendering and performance issues. Likewise, the Associated Press was looking for a news systems specialist with technical chops as well as "professional experience in broadcast or online news creation/production, broadcast or on-line systems or operations."

Boston public radio station WBUR had fairly explicit needs for a lead web developer it was hiring last year, including 100 words of detailed technical requirements. But right between experience with "web serving technologies

such as Apache, Nginx, IIS 7+" and "Amazon AWS, EC2, S3," there was this: "A passion for news and storytelling."

News leaders say writing job descriptions is usually much easier than filling the jobs, especially given the competition for people with the code and development skills needed in high-intensity, around-the-clock newsroom operations.

"We have a hard time holding on to our developers because they are so in demand," said Melanie Sill, vice president of content at Southern California Public Radio (KPCC-FM) in Pasadena, formerly a newspaper editor. "We pay what we can, but they can command much higher salaries. Our turnover in that team is much higher than other teams."

Some of that turnover is purely financial, as Sill noted. But newsroom culture can be as much of an obstacle as newsroom budgets, with technologists thought of as support staff rather than problem-solving partners.

"Media suffers from an IT mentality with tech," said Vox's Trei Brundrett. "Tech today is everything. It's the medium we're communicating in. [Developers] should be core to all sorts of decisions and things we're building."

IN THEIR WORDS: RECRUITING MISSION-DRIVEN CODERS

News leaders say two keys to reeling in qualified tech talent are creating a culture where those people feel that their opinions and abilities are valued and that they can make significant contributions to a mission they believe in.

Emily Ramshaw, editor, Texas Tribune:

"When it comes to hiring developers, a news organization like ours isn't just competing with the top newspapers for talent — we're up against the Googles, the Facebooks, the tech startups that can pay three to four times what we can. We have an additional hurdle: We have to find developers who are so devoted to our mission that they'll come aboard for the goodness of the gig."

Jim Schachter, vice president, news, WNYC-FM:

"We have a couple incredible people who could go to work tomorrow for a technology company — Google, Facebook. They stay here because they're really into the mission and like working in public

media."

Trei Brundrett, chief product officer, Vox

"Developers want to have a well-defined mission. They like challenging problems. If you think big about that, you can find people. If you're thinking broader about the ways we tell stories or use data to drive product, redefine what the problems are — that's a tech culture…. [Developers also want to know] there's a path for them in their career. A lot of media companies don't consider a path [for developers]. Many of them get stuck. There's rarely leadership opportunities. In a newsroom, it's editors. You can create that tech culture but someone in tech has to have a seat at the table. That's important."

Visual storytelling: what you see

The fundamentals of visual storytelling and editing have become fairly standard requirements for digital media gigs. Visuals were a responsibility listed in many the online producer openings collected for this report, whether job seekers were applying for work at a local broadcaster like WABC-TV in New York ("a key focus on video"); a publisher like the Hartford Courant Media Group in Connecticut ("will edit and post text, photographs and video"); or a public media outlet like Oregon Public Broadcasting ("familiarity with acquisition of digital content such as photos, infographics, video...and related rights management issues").

The media organizations that responded to our questionnaire sent a similar message, with nearly 60 percent (18 of 31) saying that "visual storytelling and editing" was a top-10 hiring priorities. The questionnaire form defined visual storytelling as "photo/video production" (with a separate question for

editorial graphics and animation, addressed below). But based on the answers to our open-ended questions and the job postings we collected, when news leaders referred to "visual storytelling," they mostly meant video — a need driven in part by a combination of video's power to engage social and mobile audiences as well as the relatively high ad rates for streaming content.

"The push for more (and smarter) video content comes from a dual imperative to serve our audiences and our advertisers; to make more money and do more relevant journalism," said Michelle Holmes, vice president of content at the Alabama Media Group, answering a follow-up question for our survey via email. "We've seen the demand for video advertising skyrocket across the industry and the relentless march toward mobile makes this even more essential. From the journalistic side AND the monetization side: mobile video is where the eyeballs are. It's where we need to be focusing attention, resources, great content and great opportunities for brands to reach our audiences."

Some of the leaders we heard from said their organizations were not just interested in video people who could produce and distribute TV by other means; they wanted video people who also came with other editorial super powers.

Holmes' Alabama Media Group created an eight-person social video production unit last year. The Advance Publications subsidiary — which also

produces the AL.com statewide news site, The Birmingham News and several other newspapers — announced the new team in a job posting seeking journalists to "help blaze a path into a future that puts video at the very core of a new kind of social storytelling." With titles like social video producer and social sourcing producer, the company said the unit would explore "new ways to reach audiences, from Snapchat to Vine to Periscope, and recognize the place those venues have alongside longer-form documentary work."

Alabama Media Group isn't alone in looking for ways to focus on different kind of video. When asked in an open-ended question about any positions their organizations had created in the previous year, we also heard about new video producer and editing positions at two social media-minded ventures — non-profit First Look Media and Al Jazeera Media Network's AJ+.

That some of these gigs combined elements from several skill categories, such as images and social engagement, underscored the changing nature of visual journalism, as well as the overall importance of mixing and matching editorial talents. We also saw that illustrated in the job requirements for multimedia photo/video positions like this one for a "Visual Arts Journalist" at the Journal Media Group's Naples Daily News in Florida:

"Must be versed in the use of and active [on] social media programs such as Twitter, Instagram, Vine, Facebook, Google+ and others."

Job postings also illustrated how news organizations increasingly expect reporters to handle visuals as well as text, as the Associated Press seemed to want when it was looking for a supervisory correspondent to work in Milwaukee: "Proficiency in reporting and producing content in multiple platforms, including text, photo and video, is a plus."

Overall, the video vision appeared to be on the minds of all kinds of news leaders. But newspapers showed particularly strong interest, with three-quarters (6 of 8, or 75 percent) listing visual storytelling and editing as a priority. And because most of the small- to medium-market locals began as newspaper companies (5 of 7, or 71 percent), visual storytelling was one of the only areas in which those respondents showed more interest in a particular skill set than did their peers at organizations focused on other audiences.

The public radio organizations in the survey seemed be of slightly more mixed on video than other media outlets (2 of 5, or 40 percent) — in part because their traditional audio orientation already makes generating text for digital audiences an additive, multi-platform challenge for their staffs.

For-profit commercial media companies seemed to think visual storytelling and editing was slightly more important than their nonprofit counterparts. Two-thirds of for-profit companies (13 of 20, or 65 percent) said visuals

were a hiring priority. Among the non-profit companies, visuals were a priority for less than half (5 of 11, or 45 percent).

We asked about editorial graphics and animation, in addition to video and photo production. In open-ended answers to our questionnaire, news leaders spoke about newly created positions, such as an interactive digital graphics person at the Minneapolis Star Tribune and a position at Vox Media in Washington, D.C., focused on "motion graphics… for mobile/social platforms"

News leaders also told us that editorial graphics and animation were some of the most challenging positions to fill. Three respondents volunteered that they had a difficult time finding qualified applicants to do data visualizations. Another said the same thing about animation and another mentioned "interactive reporters."

The interest in graphical and animated storytelling was far higher among the respondents from newspaper companies (5 of 8, or 63 percent) than than those at other kinds of media companies (7 of 23, or 30 percent). It also was higher among those from for-profit media firms (9 of 20, or 45 percent) than in non-profit media (3 of 11, or 27 percent).

Overall, editorial graphics and animation was less of a priority than video and photo production. But there seemed to be significant cross-over between the two categories among our respondents. Of the organizations

that said editorial graphics and animation was a priority (12 of 31, or 39 percent), all but two (10 of 12) said video and photography was important, too.

"There's going to be more video and motion graphics," said Trei Brundrett, chief product officer at Vox Media. "Mobile is going to drive us into a world where we want to express that whether on our platform or others." But finding the kind of multimedia journalists who can do that kind of work requires a combination of skills that are hard to come by.

"Unicorns are the people who can produce the video and incorporate story and motion graphics and integrate it into the platform they are telling that on — and put that with a written story in a much more integrated way," Brundrett said. But that's not how many multimedia teams really operate: "It's usually that the video people are over here and the writers are over here. The people making the experiences are rarely talking to each…. Generally people who aren't as fixated on the medium — they have the ability to work across platforms and mediums. And they are harder to find."

IN THEIR WORDS: STORIES IN MOTIONS

Video, editorial graphics and animation are talents many newsroom needs to create the kinds of experiences they think their digital audiences crave.

However, those particular superpowers are sometimes hard to come by —
especially in one editorial package.

**Keith Jenkins, former general manager, digital, National
Geographic (now with the National Geographic Society):**

"If there's one skill that needs to be honed it's multimedia
storytelling. There are a lot of good journalists and writers, but being
able to create a compelling storytelling environment is key. Much of
what we do mirrors the ink landscape. But it's the multimedia
experience that really sticks with people. [We need] people who
really understand that and specialized in that skill set in a
newsroom."

**Jim Schachter, Vice President of News, WNYC public radio in New
York:**

"In our newsroom, being able to take the great photograph and write
the headline that gains your story traction in social is important,
certainly for a place that was audio-centric. It's not the thing that
someone wouldn't get hired for, but people need the visual
sensibility."

Products, teams and leadership

Many journalists still flinch when they hear their websites, mobile outlets, radio programs, newscasts and newspapers referred to as "products" — much as they did when people started calling their stories and images "content." But they better get used to it.

Products need vision and goals and "owners" who make sure they grow and adapt. And our survey and interviews found that people with those skills and experience are in high demand — at least in some news organizations.

Terms like "product development" and, more recently, "product owner" are still relatively new in the news business. Product owner has caught on as media companies have followed other kinds of organizations in adopting elements of the Agile software development process — an iterative, customer-centric way of coordinating multidisciplinary teams and projects best known for its regular "scrums." In Agile, the "P.O." can play a specific kind of lowercase-L leadership role as a key stakeholder, priority-setter and

keeper of the vision. (In "Spotlight" terms, you might think of Liev Schreiber's Marty Baron as a product owner to Michael Keaton's Robby Robinson as "scrum master." But as anyone who's ever worked on or with an editorial scrum team will attest, we could argue endlessly about the definitions and boundaries of those roles, so we won't here.)

The importance of product-focused roles came through in our questionnaire when we asked our news leaders about positions created in their newsrooms in the past year. Daniel Eilemberg, the senior vice president for digital at the Fusion Media Network, and Elizabeth Green, CEO at the non-profit education news service Chalkbeat, both told us about building their product teams. In Green's case, the new Product and Growth team ("growth meaning audience growth") included a product director and a product associate, to which she has since added an engineer and community editors. Raju Narisetti, News Corp's senior vice president for strategy, also talked about the need to designate a "chief product officer in the newsroom" — a role the Wall Street Journal filled with the appointment of a Head of News Initiatives to oversee digital design, development and new editorial products. We also heard from a couple of respondents who said they had a difficult time filling positions like these, especially with anyone who brought an editorial sensibility to the assignment.

In addition to those roles, we found product responsibilities embedded in the duties and requirements for a range of other jobs. A social engagement

editor at the Buffalo News in New York, for instance, would be working "with product development teams on emerging platforms," just as the Gazette's digital news editor in Cedar Rapids, Iowa, would be expected to be "comfortable working closely with a digital news products manager, newsroom developers and analysts." And a multimedia editor at the Wall Street Journal in New York "would have their hands in both the print and online products, tailored for a range of devices." These postings from newspaper companies were a hopeful sign, given the answers we saw for that sector in our survey.

In our questionnaire, experience in "product ownership/development" showed up remarkably high overall, given its relative newness in the editorial toolbox. Just over half of the participating news organizations (16 of 31, or 52 percent) said it was among their hiring priorities for the coming year — the same number, in fact, who prioritized "journalism essentials" (which we defined as " reporting, writing and editing"). To put that in perspective, that was more the than the number of newsrooms whose leaders prioritized beat reporting and specialized reporting or cross-platform storytelling and editing (both of which got 12 out of 31, or just under 40 percent). It also fell neatly between the tallies for two more widely discussed news industry obsessions: social media distribution (a priority for 17 of 31, or 55 percent) and social engagement/reporting (14 of 31, or 45 percent).

But product ownership and product development were not high priorities across all kinds of news organizations. Only one of the eight newspaper companies among our participants said product roles were on its wish list for the coming year. The number was similarly low among all local news outlets (4 of 15) especially those in small- and medium-sized media markets (1 of 7).

In contrast, product roles were a distant number-two hiring need among the organizations that began as digital publishers (9 or 13, or 70 percent). Coding was the only skill that mattered to these digital-centric companies.

Another indication of the increasing need for staff focused on building new kinds of news products is the frequency with which "project management" showed up in job listings. Product management and project management are different but complementary skills that are often confused. The project part is a more familiar concept to generations of news editors and producers — at least when it comes to setting deadlines and, in some cases, being a key decision-maker on certain editorial initiatives. But now those same editors and producers are expected to "work collaboratively" (as job descriptions often put it) with coders, designers, marketers and other business people. Editorial "partners" with backgrounds like that often come to the table trained in specific, iterative processes for working together on projects in cross-functional teams. Without training in those processes, editorial project leaders can seem disorganized, inflexible and even

dictatorial.

In our survey, project management was ranked as a low hiring priority overall. Less than a quarter of the organizations we heard from said that was among their needs (7 of 31, or 23 percent). No newspaper companies or local media of any kind listed project management among its hiring priorities for the coming year. However, project management roles and responsibilities did come up in open-ended answers and follow-up interviews. At WNYC in New York, Jim Schachter and Paula Szuchman both noted that the public radio station had created new or expanded project management roles at the team, newsroom and executive levels. And in Washington, NPR Visuals editor Brian Boyer added a full-time project management position to his team of multimedia and interactive journalists.

We also saw project roles and responsibilities in the job descriptions we reviewed — especially in digitally oriented jobs. U.S. News, for instance, was seeking someone with "proven online project management experience" to steer one of that company's many ranking initiatives. And National Geographic was recruiting for three digital designers it expected to come versed in Agile process described above. Boston public radio outlet WBUR-FM was in the market for someone to "work with cross-functional project teams to determine and set project scope and project schedules and deadlines."

Traditional experience in or with newsroom management can be helpful, too, but it also can come with some baggage when it comes working in

teams of people who come from different kinds of work experience. "The rapid evolution of the industry means there's a perverse side effect in which experience means a lot of positive learned lessons, but also some lessons that don't suit today's environment," said Chalkbeat CEO Elizabeth Green. "We need PTSD counseling for people who've come from newspapers," she explained. "If you'd been in an environment where the strategy is crazy and your supervisor is crazy…. How do you unlearn instincts that were born from that environment?"

Vox Media's Trei Brundrett, the company's chief product officer, said he thinks the news business could use more hybrids — people who combine the editorial and technical perspectives. As it is, he said, most editorial people "start with too many assumptions about what [the product] will look like." And then there are the more technical "people who managed consumer products" in the past, whose process can feel "clunky in an editorial environment. It's too rigid or too methodical…. We need to create people who are in between them."

In other words, people with a superpower.

IN THEIR WORDS: WHAT'S A 'PRODUCT' ANYWAY?

Mark Briggs, digital media director, KING-TV in Seattle:

"Most companies have a handful of mobile apps and dozens of sections. You can break them up as products — from coverage of weather to the Seahawks. You have to have someone managing and leading an important area that drives a lot of audience. Traditionally, the journalism version of this is sections. These are the products. It's not revolutionary but it's a different approach."

Elizabeth Green, CEO, Chalkbeat:

"We have all these products that needed owners….They work with designers and developers and do reader research. They are the closest thing we have to a marketing unit. And we like that they are the representative of the reader. They do analytics as well. We need people who are familiar with working with development and have the leadership skills required to get multiple constituencies onboard."

John Temple, former president, audience and products, First Look Media:

"The product owner wants to put the least perfect product out, to get it into the wild and start learning from users — what confuses them, what features do you need? Project managers can bring all that together. Everyone is on track and knows what they're here to do. That hasn't been historically how newsrooms are built."

Keith Jenkins, former general manager, digital, National Geographic (now with the National Geographic Society):

"If you're in digital publishing, you're in the technology business. So you have to be structured in a way that a technology company is structured — having a much more focused approach to creating stories and multimedia and thinking about them as products with a structure around the creation of them. It's not just a writer and reporters, but a programer and designer. Almost every piece of content is created by a team. And you'll have multiple teams working on multiple projects. Project management is an important part of that."

Transformation and collaboration: church meets state

Washington Post Executive Editor Marty Baron created a stir in the newsiverse last year when he said newsrooms shouldn't "labor in isolation from the business operations" and that journalists could engage their business colleagues without endangering "our principles of independent and honest coverage."

Few among the 39 news leaders we spoke to in 31 media companies would have disagreed with the Post's editor.

Asked whether their journalists "need to understand the business side of your organization better in order to work more directly with units focused on events, sponsorship/advertising, subscriptions or membership," two-thirds answered "yes" (25 of 39, or 64 percent). And in their open-ended explanations, about half of those who said "no" explained that understanding aspects of the business side were important to at least some people in their newsroom — especially issues related to market, audience

and product.

"Journalists need to understand the business side of things in order to help our business colleagues find and create things that can generate money yet align with our editorial sensibilities," said Ron Smith, deputy managing editor for daily news and production at the Milwaukee Journal Sentinel, who was among those who answered "yes" to our business question.

Scott Montgomery, NPR's managing editor for digital news, said no, he did not think the newsroom "needs to work more directly with units that touch events and sponsorship." But, he added, "I do think our journalists need to understand our business and our place in the competitive landscape. We need more clear-eyed realism about our challenges and what we need to prosper in the market place."

Overall, the answers were as definitive among those who worked non-commercial, nonprofit media (9 of 15, or 60 percent) as they were among those who worked in commercial, for-profit news companies (16 of 24, or 67 percent).

"Our mission is our business model," said Scott Lewis, CEO and editor-in-chief for the nonprofit news site Voice of San Diego. News people "can't think of self promotion as separate from their duties as journalists. It's their product."

For the news leaders we questioned, this was not a lofty, philosophical

topic. This was a concrete discussion about the kinds of roles and know-how their organizations need on staff.

Asked about positions "that didn't exist in your news organization previously," people told us about newly created roles for a grants manager at Texas Tribune and an operations manager "to help with business growth" at the Gimlet Media podcasting service. Boston public radio station WBUR-FM hired an executive director for its Public Radio Business Lab, a role funded by the Knight Foundation. And National Geographic created a "Director of Content Initiatives" to serve as a "liaison between the digital content staff and the advertising and sponsorship unit to help with better digital advertising and sponsorship integration."

We also found business responsibilities embedded in many job postings. WBUR, for instance, was seeking an associate producer to its iLab program incubator — a position that required a person who could "participate in marketing activities to identify and build audience for new programming efforts, including on-air promotion, social media campaigns and live events."

At U.S. News & World Report, an opening for News Editor/Project Manager (an interesting title in and of itself) required applicants who would "work well as part of a team that includes both editorial and non-editorial personnel."

When the nonprofit Religion News Service was hiring a new editor-in-chief, it sought a journalist who could work "with the business and technology staff on audience growth initiatives, subscriber relations, marketing and sales leads, and new product development."

Likewise, the executive editor at the nonprofit Oklahoma Watch, an investigative news site based in Norman, Oklahoma, was hiring a chief operating officer to "increase fundraising and earned revenue and expand marketing and outreach" and "help draw up a multi-year business plan."

For many news organizations, managing the "business side" is a management responsibility. Our questionnaire specifically asked participating organizations if management skills (which we defined in part as "process, people and decision-making, budgets") was a hiring priority for the coming year. Only a quarter said it was (8 of 31, or 26 percent).

However, the open-ended questions in our survey and follow-up interviews told us a somewhat different story. As one senior media executive bluntly put it, "No existing managers in my organizations have the skills to teach or develop beyond basic levels in my two most needed areas."

Another editor recalled arriving at a new company in the preceding year to find an organization where many of the newsroom's middle managers needed "a lot of training" — front-end editing, having difficult conversations, productive critiquing. "A lot of basic management wasn't

there," this editor confided, asking to speak anonymously for obvious reasons.

One of the most significant management challenges we heard about was leading the newsroom overhauls that market changes require. But many of the leaders we spoke to saw this more as a training issue than a recruiting issue — which may explain why management skills did not show up as prominently in the answers to our questions about hiring priorities.

"I think every organization needs training in leadership and conflict management," said Smith of the Milwaukee Journal Sentinel. "Why? Change can't happen without strong leaders and any change will involve conflict that a good leader must be able to manage."

NPR Visuals Editor Brian Boyer, who moved to journalism in 2009 after spending seven years working in the software business, has been mystified by the lack of basic management skills and practices in his new industry: "Goal-setting and measurement. Analytics. Evidence-driven decision making. Organizational health. Being a good manager. Working as one big team, not many competing fiefdoms. Seriously. There are great books on this stuff. People need to … read them."

Self-reflective news leaders saw the need for more of these kinds of skills in themselves. "Our senior team needs training, too, including me," said Chalkbeat CEO Elizabeth Green, adding: "I repeatedly fantasize about

spending time following [people in] key new roles at better financed news organizations. A day with the audience development team at BuzzFeed. A day with the product team at Vox. A day with the metrics team at Upworthy. I also fantasize about looking at multiple news organizations' org charts side-by-side — and also in a chronological view so I can understand how they have evolved over time and where they are going as I define our own org chart."

Two other inter-connected factors may be driving the appetite for management training: evolving business strategies and related turnover, especially in top newsroom positions. We saw this in action during the research for this report. In one case, National Geographic, the company changed its entire business model, merging its nonprofit print and digital arms with its for-profit broadcast unit in an expanded partnership with 20th Century Fox (a move that occurred after our survey and follow-up interviews were completed, which is why we are still counted its answers among our non-profit media companies in this report).

In fact, of the media executives and news leaders at 31 organizations who answered our questionnaire, a third had taken on their current position in the previous year, moved up or left their company the months immediately after they responded. If that amount of change in a little more than a year is at all representative of the industry as a whole, management is another superpower — even if it is not a hiring priority

At the end of our questionnaire, we asked a classic journalism question: "What did we miss?" Eight people from seven organizations said something about leadership or management training. But only one of those people had also selected "management" as one of their top five-to-10 hiring priorities. If we'd combined all of those answers (from 15 of 31 organizations), we might be able to think of management as a newsroom need at nearly the same level as, say, product ownership/development. But the distinction between training and hiring priorities seems to matter in this case: Most newsrooms aren't looking for more management. But in many cases, they need better management..

IN THEIR WORDS: THE FIREWALL

A majority of news leaders told us they thought journalists needed to have a better sense of their organizations' business realities — either to understand the markets they are competing in or to play a direct role in generating editorially sound ideas for keeping their newsrooms open.

John Drescher, executive editor, The News & Observer:

"We have created new print and digital products and found underwriters for those new products. In the newsroom, we have more of an entrepreneurial spirit than we once had. I'd like to expand that. It's vital that newsrooms and ad staffs work together to develop new

products and create more opportunities for advertisers. Newsrooms must maintain the final say on the journalism but newsrooms have to communicate with ad staffs and listen to their ideas."

Greg Borowski, deputy managing editor, projects, investigations and digital innovation, Milwaukee Journal Sentinel:

"The days of isolation are long gone. This does not mean an ethics-breaching things, but a strong understanding of the needs on the business side is increasingly vital. I always frame it as our readers (and viewers) are the audience for advertisers. If we are creating content, for instance, that the advertising department may be able to sell, but doing it in the 'wrong' manner (i.e., publishing on a Wednesday when Fridays work better, or not gathering the content in the same place online, or in the same section in print, we need to be able to work together so that the work can be financially supported. Another example: If we are already covering a topic — say outdoors, the environment and travel — and there is a market for it if we repackage and put it together online, or even in print, then we need to be open to that."

Mark Briggs, director of digital media, KING 5 Seattle:

"Regardless of whether they work with other units, journalists should have a better understanding of how brand-building strategies can assist the overall business and it's not just a matter of ratings points and page views."

Elizabeth Green, CEO, Chalkbeat:

"I think what's really needed here is for journalists not to become business people (although some of them will), but instead for them to have literacy in what business means in journalism. Reporters today spend a lot of time worrying about revenue, but often lack the sophistication…to evaluate what makes a revenue situation good or bad. I also think journalists need to gain more 'business' skills that are nicely applied to their work, but have historically been undervalued in weak-culture news organizations. I have in mind skills like project management, leadership, HR and supervision, organizational systems, and recruiting."

Daniel Eilemberg, senior vice president, digital, Fusion:

"We believe transparency and empathy are important parts of our organization and culture. The better we all understand each other's roles, goals and accomplishments, the better we can align goals across the organization. That is not to say that journalists need to have a deep understanding of the sales process, or that should be involved in it in a any way. But it does help when they understand what the market is responding to and where the organization is having success. At the end of the day, everyone understands we need to have a successful business."

Beyond the data on data journalism

Data-driven journalism was not one of the highest-ranked skills in our survey on newsroom hiring priorities. But other evidence, including open-ended answers on our questionnaire and especially actual job postings, all suggested that the demand is greater than the survey results conveyed.

News leaders seem to have a sense that the Internet is a bottomless source of data-driven story ideas, and that digital publishing provides amazing new ways to tell and present those stories. As the job announcement for a database reporter at the Chronicle of Higher Education put it, "Our newsroom is awash in data — nonprofit financial statements, endowments, executive salaries, federal grants, IRS tax data, college graduation rates and more — and we need someone to help us organize and make sense of it all."

In the survey, data skills were a middle-tier hiring need, listed as a top five-to-10 priority by less than half of the newsrooms that responded to our questionnaire (13 of 31, or 42 percent). In this case, newspapers (4 of 8, or 50 percent) and non-profit news organizations (6 of 11, or 55 percent) showed the most interest, but data skills were not among the top choices in either of those categories either. (We discussed a correlation between the

news organizations that prioritized editorial graphics and animation and data skills in the section about Visual Storytelling above.)

On the other hand, data reporting and data visualization appeared often in open-ended answers about positions that had been created — including a data visualization staffer at the Houston Chronicle and a second data editor at Southern California Public Radio station KPCC-FM in Pasadena. Several news leaders also noted that those roles were among the jobs they had a difficult time getting qualified applicants to fill.

"It is hard to find high-quality interactive reporters," wrote Gabriel Dance, managing editor for the Marshall Project, a digital news outlet that focuses on criminal justice issues.

"We have only one data journalist," lamented David Cohn, while he was executive producer at AJ+. "Would love more. But that's a tough role to hire for."

Perhaps so, but that did not stop many news organizations from trying — at least based on the job descriptions gathered for this report.

The Chronicle of Higher Education's vacancy was for an entry-level database reporter with "in-depth knowledge of a range of computer-assisted reporting tools, especially MySQL and Excel." Also "a big plus" for that position: "some programming ability (e.g., HTML CSS, Javascript, Python, jQuery)" — the same kinds of skills that also made coding and development

jobs hard for newsrooms to fill.

Around the same time, the Chronicle also was hiring a news app developer for its Data & Interactives team specifically to help the organization "effectively present news and data online" and "create engaging and informative data-driven news applications."

Data journalism and data visualization was not always a primary responsibility as it was in those two postings, but it often showed as a desired skill in other kinds of newsroom jobs. Candidates for a social policy reporter opening at the Lafayette Journal and Courier in Indiana needed to be able to "produce enterprise and watchdog stories by parsing public records and documents" and "using data." Similar ambitions appeared in the postings for a multimedia editor at the Wall Street Journal (requires "a strong portfolio of data visualizations"); an online producer for the Gainesville Sun and the Ocala Star-Banner ("We make use of Caspio and Tableau software for online data searches and visualization"); an investigative producer for WLEX-TV (LEX18) in Lexington, Kentucky ("computer assisted reporting experience is a plus"); and a multimedia reporter for the Belleville News-Democrat ("database journalism skills are a plus").

We also found references to data journalism in management positions, including news editor openings at U.S. News & World Report ("involves managing a data-driven rankings project") and the Alaska Dispatch News and

its website in Anchorage ("a track record using data journalism is plus").

One thing we learned from our research for this report: anything that's mentioned as "a plus" in a job posting is almost always a superpower.

IN THEIR WORDS: DATA PEER PRESSURE

News leaders see opportunities in seeing data visualized, in part because they see other news organizations doing just that.

Burke Olsen, managing editor and content director, Deseret Media

"I really see data visualization as a necessary skill. There are interesting interactives being built by larger publications and there's going to be a lot of pressure for local organizations to create content like that."

The editorial foundation and competitive advantage

When asked in our questionnaire to narrow his list or hiring priorities to three, Bill Adee, vice president for digital at Tribune Publishing, chose product development, project management, audience development. But, he added, "I always say that clear, concise writing is the No. 1 skill needed and always will be."

Many of the news leaders in our survey expressed some kind of pull between what we labeled Transformational Skills, like the ones Adee chose on his top-three list of hiring needs, and the kinds of Foundational skill he also mentioned.

That pull may seem somewhat sentimental. Worse, it may sound like lip service. But our survey and interviews suggest that it is not. Newsgathering skills remain critical, and their relatively low hiring priority in our survey likely reflects the fact that many of the firms surveyed still have employees with those skills. Practically speaking, the tension may simply reflect a difference between the skills that news organizations have decided they

need to add and the skills they think they have already.

However, other evidence told us that there was a strong desire to hire people who had abilities that would bridge their organization's Foundational and Transformational needs, no matter their title or primary job responsibilities.

Journalism Essentials was a fairly high priority for most of the categories of media organizations we surveyed, but especially for news outlets that began as digital publishers (8 or 13, or 62 percent). For the digital companies, Journalism Essentials ranked as highly as audience development and social media distribution and above visual storytelling. Only coding and development skills and product ownership/development know-how were needed more among these organizations.

In the open-ended answers to our questionnaire and follow-up interviews, we heard over and over an expectation that Transformational skills were grounded in some kind of Foundational experience or ability. And the job postings we collected and summarized above reinforced that impression. We saw that in the "passion for news and storytelling" that public radio station WBUR was looking for in its otherwise highly technical posting for a lead web developer, and in the "blend" of "strong news judgment" and sophistical understanding of audience data and various forms of user testing that the Gazette Company wanted from a news editor for its digital

properties in Cedar Rapids, Iowa.

These are the kinds of Transformational-Foundational combinations we've defined throughout this report as superpowers.

For Advance Digital's David Cohn, who was executive producer AJ+ when we interviewed him, baseline journalism abilities are "non-negotiable." You're not useful, he said, "if you can't do basic research and be accurate. Accurate, thorough and fair. (Thorough and fair are more subtle.)"

"Our core offering is great journalism," said Chalkbeat CEO Elizabeth Green. "We need people to make it happen. That [skill] doesn't disappear."

IN THEIR WORDS: FIRST, FOREMOST AND FUNDAMENTAL

Amid the tumult and changing needs of newsrooms, media leaders say they still need journalists who can tell a great story, no matter what tools they use to report or distribute it.

Emily Ramshaw, editor, Texas Tribune

"First and foremost is judgment and storytelling. You can train all these other skills — coding, data, multimedia — but not if you're missing those fundamentals. I absolutely respect that journalism

schools are working to make [students] highly employable by giving them coding skills, app development skills. But I see in some cases they're not spending enough time on the essentials — plain and simple reporting and writing."

Melanie Sill, vice president of content, Southern California Public Radio (KPCC-FM):

"The training people crave is still around fundamentals — storytelling, use of sound, public records and documents, using unnamed sources…. Those are the places people feel most insecure."

John Temple, former president, audience and products, First Look Media

"There are a lot of mediocre journalists in the world. The challenge for young people, they should come out technically adept, but they have never worked for an editor that knows what excellence looks like and holds them to that."

Alex Blumberg, co-founder and CEO, Gimlet Media:

"There's so much media. To survive, you need to cut through. Which means focusing on storytelling and craft and execution. Aesthetics. Obviously, the journalism has to be top-notch. But presentation — super important as well."

John Barth, chief content officer, PRX:

"There are missing cultural components and I cannot stress these hard enough: adhering to fairness and completeness; open-mindedness (an internal awareness of bias when reporting, assigning, editing and hiring); aggressiveness and follow through (courage!). An acceptance of the role that money, ads, grants and sponsorship play but the ability to state boundaries in a team environment so that the only result is purely independent, credible work."

Conclusions

Hiring priorities are one way to look at the future of journalism. If our unscientific survey of news leaders at 31 media organizations is in any way representative, the immediate future of the news business will remain focused on its ongoing digital metamorphosis, with a strong need for what we labeled Transformational skills.

Above all, there is a strong market for:

- Expertise in computer coding and development;
- Know-how in audience development and users metrics, especially as it relates to the impact of evolving mobile and social platforms; and
- Experience in visual storytelling, particularly video.

To do this work, news organizations need employees with editorial superpowers — people who pair Transformational skills and Foundational abilities. These include a commitment to storytelling, accuracy and fairness, as well as a solid footing in journalism's essentials, such as the ability to report, write and edit. Long-established forms of reporting, particularly data journalism, are still priorities — especially as digital outlets provide new ways to present information and increase its impact.

Managing the Transformation will also take more than a Perry White's gruffness and editorial backbone. News organizations need leaders at every level with a product mindset and an ability to coordinate increasingly collaborative projects.

Collaborating includes a more direct relationship with the "business side" than it did when news companies routinely turned trees and airwaves into profits, as a majority of the news leaders we heard from made clear. That means balancing a desperate need for innovation with an unyielding commitment to preserving the newsroom's integrity.

The people with the qualities to handle the demanding tasks newsrooms must accomplish remain rare in many media organizations.

The senior editors and top media executives who responded to our survey acknowledged the difficulty they face in building the teams their organizations require. They noted as much with their candid and sometimes blunt answers to our questions. Budgets are tight, managers are stretched, staffing is thin, and critical skills are hard to come by.

Future research is needed to track how successfully newsrooms are meeting their personnel needs. Among the questions and issues worth exploring:

- Are the hiring needs of local newspaper companies and other media in small- and medium-sized markets really as different from other kinds of news organizations as they appear to be? Our

survey found that small- and mid-market organizations didn't prioritize some Transformational skills as highly as larger firms. If validated, are the reasons editorial, financial, cultural or institutional? Along the same lines, why are the needs and attitudes of not-for-profit and commercial news organizations so similar?

- How is multimedia storytelling evolving? In what ways are text, audio, video, photography, information graphics and animation converging, and how are each of those fields becoming more specialized? How are business factors — including advertising rates, audience interest and user behavior on social and mobile platforms — affecting the ways news stories are presented and delivered? The broad nature and wording of our survey made it hard to answer those kinds of questions, but the answers we did hear suggested that these kinds of questions deserve more attention.

- How is the need for expertise in product development, audience information and digital coding and development changing the way newsrooms and media companies organize themselves? Which organizational models work best for which kinds of organizations?

Of most interest will be the way news superpowers continue to evolve.

Some of the skills we listed as Foundational would have been Transformational if we had done this survey just a few years ago. Blogging, for instance, was a tool that helped many media companies find their digital voices more than a decade ago. Now, social and mobile media are requiring storytellers to stretch and experiment with newer and often more visual forms. The ubiquity of mobile broadband is powering a wave of innovation in radio/audio journalism. Virtual experiences are suddenly inexpensive enough for a newspaper company and its sponsors to deliver a cardboard viewer to every subscriber.

For those who've worked through the media mayhem of the past two decades that may be an exhausting notion or an exciting one — maybe both. But for those who are just arriving to the scene of the upheaval, the market for those superpowers is great. Heroes wanted!

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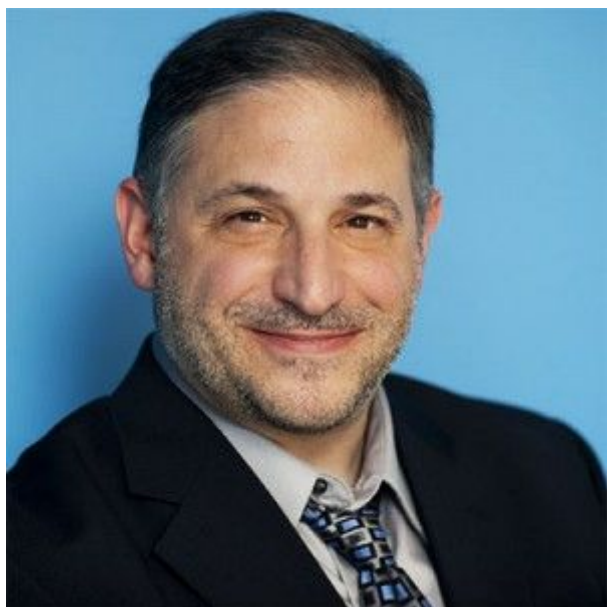
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