Artificial Intelligence in Local News: A survey of US newsrooms' AI readiness

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Artificial Intelligence in Local News

A survey of US newsrooms' AI readiness

By Aimee Rinehart and Ernest Kung
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Introduction

Artificial intelligence, once a buzzword that might pop up in a technology news story every so often, has found a home in the news industry over the past decade. AI technologies are under the hood of many news production and presentation processes, such as the automation of brief text stories from data feeds and the personalization of web and mobile news displays. AI technologies also augment the work of journalists around the world by helping them dig out information available on the internet or buried deep in large collections of documents.

The Associated Press is among the news organizations that were early adopters of AI technology. In one of our most significant moves, we introduced the use of a technology called "natural language generation" in 2014 to automate the production of thousands of quarterly corporate earnings stories — straight from financial data feeds without human intervention. AP now employs AI technologies to address a variety of needs: to get early warnings of breaking news events, generate short summaries from longer narrative text, classify and apply digital metadata to news content and transcribe audio from video in real time — among many other use cases. Across the board, these technologies have been employed to augment the work of our journalists and to minimize, and sometimes eliminate, time-consuming chores that bog down the daily news process.

We're not alone in taking advantage of AI. The London School of Economics and Political Science's Media and Communications department published a report in November 2019 laying out the expanding scope of AI adoption by news providers around the world. Oxford University's Reuters Institute for the Study of Journalism also has examined AI in its accounts in the past several years. Its most recent report notes that AI technologies have become standard for large, national and international publishers. AI "can no longer be regarded as 'next generation' technologies but are fast becoming a core part of a modern news operation at every level — from newsgathering and production right through to distribution," the Oxford authors write.

The trend has clearly taken off, but as the Reuters Institute study suggests, this phenomenon has so far been centered among "large"

publishers. Even as we at AP have told our own story and observed other big news organizations tell theirs over the past several years, our suspicion has been that awareness and use of AI were not trickling down to "smaller" news providers.

That perceived "gap" in AI knowledge and adoption prompted AP to pursue a Local News AI initiative that has been funded by the John S. and James L. Knight Foundation to understand the true state of the art at the local level and to advance smart, ethical uses of AI technology that can help local news providers augment their journalism, achieve efficiencies and sustain their businesses.

As a first step in what will be a two-year project, we developed a survey — which we called an "AI readiness scorecard" — to solicit interest in our project and assess the current state of AI awareness among local news providers. Leaders of 192 local newsrooms completed our scorecard because they see AI as potentially helpful to their journalists and the communities they serve. Twenty-five newsrooms also sat for in-depth interviews recorded on Zoom. Scorecards came from all 50 states, D.C., Puerto Rico and Guam; from print, radio, TV and digital-only formats; and commercial as well as nonprofit operations. The scorecard and interview questions covered newsgathering, production, distribution and the business side of news operations.

In general, we confirmed our suspicion about the AI gap between large and small organizations. In the cohort we surveyed, AI technologies were not in wide use. But the reasons largely came down to a lack of any cushion required to experiment.

Experimentation with AI and automation technologies requires the capacity of staff, a strong foundation with current technology, time and money. Many newsrooms spoke of staff turnover, frequently losing the one person who had been the driver of innovation. Others spoke of being unable to spare one of a handful of reporters to take a month to learn how a speculative technology might enhance, and not distract, from their other duties.

What's more, current technology in local newsrooms is patchy and often does not sync. Adding still another layer to an already cumbersome technology stack can be out of the question for many newsrooms. Innovation requires customizing off-the-shelf products, building new products and/or partnering with vendors or universities. In all instances, someone needs to understand how to maintain these products. Someone needs to take the lead. And, then, some experiments ultimately fail, and that failure can sink a local newsroom.

Despite these odds, we encountered inspiring stories among newsrooms of various staff sizes and technical capabilities. Some newsrooms have built workarounds to technology gaps. In others, tech-minded journalists have created basic automations to help their newsroom contend with an onslaught of information. In the most promising cases, some local newsrooms have devoted special teams to technology innovation.

In this report, we share the full scope of our scorecard results and interview highlights. Included are snapshots of local news leaders and their unique circumstances. These profiles also serve as a reminder that humans drive innovation, not robots. Some news leaders expressed concern about journalists being put out to pasture for "robot journalism." They worried about being left behind by yet another mysterious journalism trend that feels out of reach for their own news operations. They asked tough questions about the ethics of using AI to augment journalism.

With this report, we aim to level-set the AI playing field at the local level with some basic information about the current state of the art and what these survey respondents say they need to put AI to use in their operations. We will move on in the next phase of this Knight-funded project to offer a free online curriculum based on these findings. Following that, we will undertake a limited number of hands-on engagements with local outlets interested in developing AI applications of their own.

At this stage, it's all about getting a deeper appreciation of the needs of local news outlets and a deeper understanding of how AI-based solutions might be able to help. With AI technology emerging as the next major step in the computerization of the newsroom, we aim to make it accessible to all.

"The acceleration of information and the multitude of software, platforms and tools to measure it and apply it has become staggering. There are few people in any operation with the ability to maximize all of it and few tools that harness the power of disparate channels to reduce, instead of increase, information overload or automate routine tasks."

JOEL CHRISTOPHER
EXECUTIVE EDITOR
KNOXVILLE NEWS SENTINEL

"My biggest fear is: Can we move fast enough to keep up with new technologies? I know things are moving very quickly in AI, and I ask myself organizationally, are we going to be nimble enough to be able to take advantage of opportunities or to identify needs and then be able to see how a technology like that could help meet those needs in a timely fashion?"

MORGAN HOLM
SENIOR VICE PRESIDENT, CHIEF CONTENT OFFICER
OREGON PUBLIC BROADCASTING

Knight Foundation grant

The John S. and James L. Knight Foundation granted $3 million over two years in May 2021 to four organizations: The Associated Press, Brown Institute at Columbia, NYC Media Lab and Partnership on AI. The grant's goal is to expand local U.S. news organizations' adoption of AI tools and automation technologies in ways that support their businesses. The Knight initiative is based on years-long analysis and observations by Knight on how AI impacts journalism, working with John Keefe, Jeremy Merrill and Youyou Zhou.

AP's work has three phases:

1.   Develop an industrywide benchmark for AI readiness across editorial and business lines, with a scorecard and interviews with newsroom leaders.

2.   Create a free, online training based on learning gaps discovered from the scorecard and raise awareness of AI and its potential impact across news operations.

3.   Consult with newsrooms to identify opportunities for automation and AI, implement and assess those initiatives.

Research methods

Who was recruited

To establish a benchmark for AI readiness, we sought information from local newsroom leaders about their operations. We define "local" broadly by considering audiences served, ownership, location and audience size. Note: "local newsroom" and "small newsroom" are not synonymous in this report. Some local newsrooms have large staffs, while some newsrooms consider themselves regional and have relatively small teams.

How we recruited

We emailed our scorecard pitch to executive editors, managing editors, news directors, publishers and station managers in AP's cooperative membership. We also elicited help from various journalism industry partners to spread the word to newsroom leaders beyond the AP membership; a list of those partners appears in the acknowledgments. We followed up the emails with phone and video calls to explain the initiative.

The scorecard

The findings of LSE's November 2019 report, "New powers, new responsibilities. A global survey of journalism and artificial intelligence," have informed our work. We extrapolated from LSE's report the questions they asked of newsrooms to build AP's scorecard questions. AP's Local News AI initiative is meant to build upon the work started at LSE, explore similar topics at the level of U.S. local newsrooms and inform other works and research for international markets.

The scorecard is separated into five categories: general AI knowledge, newsgathering, production, distribution and business-side concerns. The 32-question scorecard includes statements seeking responses on a scale of 1 to 5, where 1 represents "strongly disagree," 3 "neutral" and 5 "strongly agree." Statements include: "Our newsroom regularly uses AI in newsgathering," and "We're interested in AI to simplify production operations." There is also a blank field in every section for automation wish lists. The scorecards were collected from September through December 2021.

The interviews

A subset of the newsrooms responding to the scorecard were invited to participate in recorded Zoom interviews. Those interviews were selected to balance format, geography, staff size and business type. AP membership was not a requirement. The interviews were conducted from October through December 2021.

Five students at Northwestern University's Knight Lab conducted the interviews with a digital interview guide. The question set was developed as a collaboration between AP and the university. All interview participants were asked the same basic set of questions, and the student interviewers also asked follow-up questions.
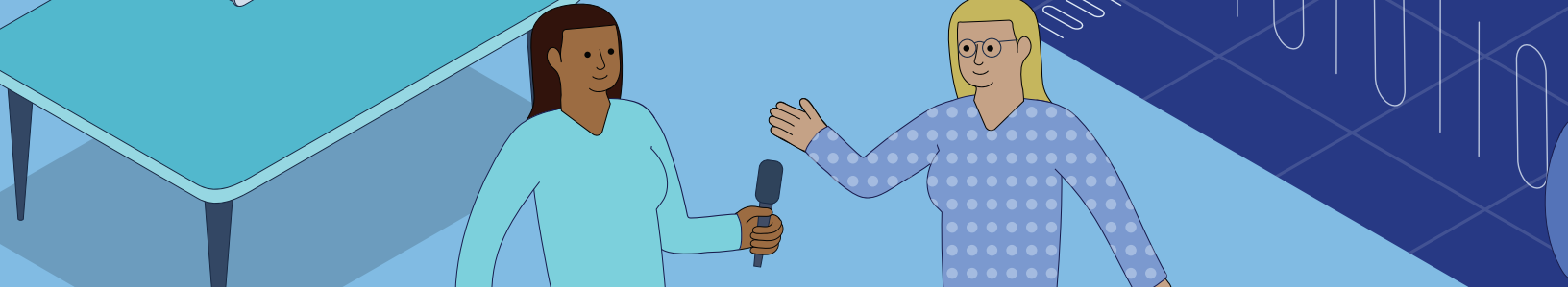
Jargon surrounding AI

AI is short for artificial intelligence, and it generally refers to a range of technologies that are human-designed to automate, accelerate or extend the human work required for specific tasks. Many applications can be used for journalism that include AI. Some applications involve simple automation of time-consuming tasks. Others are more advanced, helping journalists with tasks that they couldn't reasonably accomplish with human effort alone.

In general:

– AI helps to process data.

– AI does not have a mind of its own.

– AI depends on data that humans feed it.

– AI produces results from human-fed information.

There are multiple subcategories within AI. In general, four types of AI technologies stand out in journalism: machine learning, natural language generation, natural language processing and computer vision. We lean here on AP's previously published report, "A Guide for Newsrooms in the Age of Smart Machines," for definitions.

MACHINE LEARNING (ML) enables an application to adjust without being told what to do once humans feed it a lot of data. ML takes a complex idea and breaks it into a series of smaller, more approachable tasks that lead to a designated endpoint. But for machines to learn, they need to be taught by humans, again and again to perfect the output. This is sometimes referred to as having a "human in the loop."

NATURAL LANGUAGE GENERATION (NLG) turns structured data into a digestible written narrative. Structured data means that the data is organized in a predictable, formatted way to render similar results every time. AP had success in 2014 in automating business earnings reports and later extended that to certain kinds of sports reports.

NATURAL LANGUAGE PROCESSING (NLP) can help journalists sift through and draw insights from large collections of data or documents, such as FOIA requests. NLP also includes summarization technology, which AP and its technology partner Agolo have used to transform long-form text stories into short broadcast scripts.

COMPUTER VISION can help extract insights from pictures and video. Image recognition was used to help AP journalists identify sea vessels as part of the 2016 Pulitzer Prize-winning series on abuses in the seafood industry. Further, AP uses computer vision to help tag photos with descriptive information as they are processed, which helps with searching for them later.

Programs that include AI are already common in many local newsrooms. Examples include NewsWhip and Google Analytics for understanding audience consumption, DocumentCloud and Google Pinpoint for analyzing large collections of documents, Otter and Trint for automated transcription. (A list of technologies in use by local newsrooms that participated in this research is in the Appendix).

What most newsrooms and their audiences need is the automation of basic information, such as social media content and high school sports scores. They need help managing information overload. While automation does not always involve AI, it is often the first step toward the adoption of more sophisticated AI applications.

The findings of this research cover this full gamut of technology needs and have the potential to benefit newsrooms of any size.

Findings

Let's dive into the results of our scorecard with a look at overall AI understanding and readiness by local U.S. newsrooms. We will then cover four segments of the newsroom: newsgathering, distribution, production and the business side. Each part describes what's happening in newsrooms and then highlights what could be helpful to automate.

AP received 192 scorecards. While the scorecard remains open, the data that informs this report is for scorecards submitted by Dec. 20, 2021. Results are split into print, radio, television and digital to account for format differences.

Of the 192 scorecards, 187 were from individual local news outlets; the others were group responses. The individual responses were used for the quantitative results, where news managers responded to statements on a scale of 1 to 5. We use median values to analyze these numerical data and eliminate wide swings. The full results with averages are available in the Appendix.

A total of 135 scorecards were used for qualitative results, including the automation wish list where managers could write into a text box. Fifty-two newsrooms did not specify anything on their wish lists.

We also measured how much AI is being used today across the industry at the local level. On a scale of 0 to 6, where 0 represents no AI usage, to 6 representing widespread usage, the median was 0 or 1 for all formats, indicating that little AI is being used in U.S. local newsrooms.

Our interviews were conducted with a broad range of newsrooms, from format to geographic region.

AI readiness and understanding

U.S. local newsroom managers we surveyed are confident that AI can take on repetitive tasks to free up time and are concerned about falling behind on AI. However, they are less confident in their understanding of AI in journalism.

Scorecard findings

We created a composite score to measure AI readiness, understanding and usage. The scores were calculated on a scale of 24 to 120. Digital newsrooms had the highest composite scores with a median of 82. The medians for the other three formats were lower, with television newsrooms at 75, print 74 and radio 73.

Newsrooms rated the following statements on a scale of 1 to 5. The bold scores on the left reflect median values:

Strongly disagree 1	Disagree 2	Neutral 3	Agree 4	Strongly agree 5

We have a good understanding of what AI is and how it relates to journalism.
3   News managers across all formats are neutral on this broad statement.

We're confident that AI can take on repetitive tasks to free up resources for more substantive work.
4   Radio, TV and digital news leaders feel that AI can help increase efficiency by handing off specific tasks to automation.
3   However, print organizations have a neutral score.

Our organization has a solid strategy for AI that crosses all departments.
1, 2   With low scores across all formats, managers expressed concern that news organizations are unprepared for AI adoption.

We feel ready for AI technologies in our operations.
2   Print, radio and TV managers expressed pessimism.
3   Digital managers gave higher scores but were neutral overall.

We are concerned about falling behind in AI.
4   Radio, TV and digital managers expressed concern.
3   Print managers were neutral.

We have the financial resources to invest in AI.
3   In an industry with well-documented financial challenges, survey participants across all formats were neutral about having financial resources to invest in AI.

3   News leaders in all formats were neutral about having people with AI skills in their organizations.

We can allocate time to work on AI projects.

3   Print and radio leaders were neutral. Some managers said they weren't sure how much time they could spare for working on AI.

4   Overall, TV and digital leaders felt they could find the time.

Interview top findings

HUMANS MUST HAVE THE FINAL SAY. People need to have the final say about what will be published. News leaders said they don't want to be in a position where they let AI post reports without humans knowing what was posted. AI is best suited for data sifting, but interpreting that data is a human task.

PROTECTING SOURCES AND DATA. Some news leaders question if AI will consider privacy and understand not to publish a person's name in certain situations. How AI handles gathering and storing sensitive records, such as personal contact data, is vital to consider and needs to be transparent across the news operation and to the public.

DETERMINING WHAT TO AUTOMATE. Many news operations said they struggle with finding the most impactful problem to automate. They also listed three requirements for adopting new technology: low cost, low learning curve and low maintenance.

ALLEVIATE TEDIOUS TASKS. Many managers said automation would free people to do more important things for the brand. They want to ensure that automations make news operations more efficient without introducing complications. However, we also heard concerns from some newsrooms that ushering in AI has some staffers worried about their jobs becoming obsolete.

STAFF SKILLS. Newsrooms we surveyed often rely on a single tech-minded journalist. When that person moves on, it can leave a hole in the newsroom's ability to continue that same work.

MISSION DRIVEN. News leaders spoke about the importance of delivering quality news, and equally important, about the communities they serve. Some feel they know their audience well with two-way digital communications, primarily through the website, app or social media comments.

"We envision AI rounding out coverage from rural areas within our DMA, which is diverse, and travel is not always possible — either from a time standpoint or logistically. AI could help us service news deserts that are emerging."

BERNICE KEARNEY
NEWS DIRECTOR
KSAT-TV

"We cover a lot of important news that makes national and international headlines, so we want to be prepared for when news hits our area. AI could potentially help make some of our newsgathering and production easier, allowing us more time to focus on our content."

ERNESTO ROMERO
NEWS DIRECTOR
KYMA-TV

Newsgathering

AP's AI readiness scorecard reveals U.S. local newsrooms surveyed do not regularly use AI in newsgathering. Few have tried tools that use AI. However, most indicated that they'd be willing to use automation and AI if it helped to reduce workloads.

Some newsrooms said journalists use saved Google searches to get alerts to beat-specific information and use third-party tools to get alerts when a website has been updated. Other newsrooms employed services like Dataminr, CrowdTangle and Chartbeat for social listening. Most newsrooms interviewed said their reporting teams manually check social media pages and groups, sift through city hall meeting agendas, press releases, court records, etc., to find helpful information.

What's happening now

Scorecard findings

Newsrooms rated the following statements on a scale of 1 to 5. The bold scores on the left reflect median values:

Strongly disagree 1	Disagree 2	Neutral 3	Agree 4	Strongly agree 5

Our newsroom regularly uses AI in newsgathering.

2   Print, radio and digital news managers reported little use of AI in newsgathering.

3   TV managers gave higher scores but were neutral overall.

We have a few people in the newsroom who have tried AI technologies for newsgathering.

2   Print, radio and digital leaders report having few people who have tried AI for newsgathering.

3   TV leaders again gave higher scores but were neutral as a group.

We're interested in AI to potentially help reduce the workload for our journalists.

4, 5   While AI experience levels may be low, news managers are willing to learn about AI to reduce newsgathering workloads. Managers in all formats gave positive scores, with digital the highest.

Our journalists support exploring AI for their work.

3   Support among journalists for using AI with their work is potentially lower, with print managers giving a neutral score.

4   Radio, TV and digital managers say there is support for AI in newsgathering.

What could be useful

Based on the scorecard and interviews, the following automations are what U.S. local newsrooms would like to have for newsgathering:

TRANSCRIPTION
Transcription of interviews in audio and video formats of public and government meetings, of published audio and video stories, and with the ability to handle multiple languages.

STORY RECOMMENDATIONS
Delivering meaningful story recommendations to online audiences.

CONTENT DISCOVERY (STRUCTURED DATA)
Flagging and gathering social media content like trends, quotes from newsmakers, flag and gather content on government websites, e.g., COVID-19 data, court records, law enforcement records.

DATA ANALYSIS
For investigative journalism, revealing patterns in crime; streamlining data-based reporting of government records, home sales, cleaning datasets; election reporting, informing editorial decisions and source audits.

DOCUMENT ANALYSIS, LARGE DATA SETS
Processing large sets of public records like campaign finance records, state legislation, civil complaints, municipal budgets; in combination with text summarization to help reporters.

TRANSLATION
Translating published stories into multiple languages and processing raw data in various languages.

HIGH SCHOOL SPORTS COVERAGE
Bringing in scores from local high school teams, tracking team performance over time and competition schedules.

PHOTO INGESTION WITH METADATA
Applying tags — people, things — to photos as they're ingested to search for them quickly later.

USER-GENERATED CONTENT (UGC) PROCESSING
Sending and processing permissions requests from UGC sources and editing UGC content.

TIPS PROCESSING
Moderating story idea submissions and questions; verifying tips.

FACT CHECKING, IDENTIFYING MIS/DISINFORMATION
Streamlining fact-checking processes, alerts to mis- and disinformation.

"News decision-making is still an art and a craft, but the art in the craft can benefit greatly from better data and more information, and AI could help."

VINCENT DUFFY
NEWS DIRECTOR
MICHIGAN RADIO

"I used to have 12 reporters, now I have five, so everything is out of reach from what we used to do. By pursuing automation, we will be able to focus human intellect on more complicated stories."

DAVID TRINKO
MANAGING EDITOR
THE LIMA NEWS

"Lots of important stuff happens at board and council meetings. If there were AI that could take the minutes, decipher it, relay newsworthiness, then we could take that as a signal to send a reporter to do more exhaustive work."

TIM O'ROURKE
DIRECTOR OF PRODUCT AND STRATEGY
SAN FRANCISCO CHRONICLE

Production

Few U.S. local newsrooms surveyed use AI for news production. The scorecard results reveal moderate to strong interest in doing so. Automation in news production can include automated text writing and social media content creation.

What's happening now

Scorecard findings

Newsrooms rated the following statements on a scale of 1 to 5. The bold scores on the left reflect median values:

Strongly disagree 1	Disagree 2	Neutral 3	Agree 4	Strongly agree 5

We regularly use AI in production operations.

2   Print and radio managers say they don't use AI in production.

3   TV and digital managers gave neutral scores.

We have a few people who have tried AI technologies for production.

2   There is little experimentation with AI for production. Print, radio and TV leaders gave this low scores.

3   Digital leaders gave higher scores but were neutral overall.

We're interested in AI to simplify production operations.

4   Managers are interested in simplifying production operations using AI. Print, radio and TV leaders expressed solid backing.

5   Support was strongest among digital newsrooms.

Our production managers support exploring AI for their work.

3   Support for production AI needs to be built in print organizations where managers returned neutral scores.

4   Radio, TV and digital leaders say their production managers would support AI.

What could be useful

Based on the scorecard and interviews, the following automations are what U.S. local newsrooms would like to have for news production:

SOCIAL MEDIA CONTENT CREATION
Generating content (e.g., text, video, photo, audio) and scheduling optimized posts to Twitter, Facebook, Instagram; cropping photos and videos for different formats.

AUTOMATED WRITING (STRUCTURED DATA)
High school sports, college sports, weather, natural events (e.g., tides, fires), restaurant report cards, police logs, elections, agriculture grain bids, business licenses, real estate and community calendars.

AUTOMATED WRITING (UNSTRUCTURED DATA)
Obituaries, press release briefs, event previews, etc.

PAGE LAYOUTS
Newspaper layouts (weather, scoreboards, obituaries, comics, specials) and website layouts.

PHOTO SUGGESTIONS, ARCHIVES AND MANAGEMENT
Identify photos related to stories, photos related to other photos (archives), archive management.

VIDEO SUGGESTIONS, ARCHIVES AND MANAGEMENT
Identify videos related to stories, videos related to other videos (archives), archive management and transcoding.

NEWSLETTERS
Personalize newsletters and optimize newsletter delivery times.

SPORTS SCORE LAYOUT/AGATE
High school and college sports (e.g., box scores, leader boards) and competition schedules.

GRAPHICS AND DATA VISUALIZATIONS
Maps (e.g., story-related, weather, fire perimeters), knowledge graphs, suggest ways to visualize a data set and broadcast graphics (e.g., banners, tickers, full screens, multi-lingual subtitling and captioning).

TEXT SUMMARIZATION
Generate summaries (e.g., briefs, from government meetings and cut downs of broadcast packages).

IDENTIFY UNDER-COVERED TOPICS
Monitoring that identifies potential topics to cover that have not been covered.

IDENTIFY OVERUSED ELEMENTS
Warnings to editors of overuse of specific photos.

TRACK SOURCE DIVERSITY
Monitoring of the diversity of sources used in news coverage.

"If we can find a way to implement AI tools, I could see us freeing up several hours of the various mundane tasks included in our day-to-day, which would allow our reporters and editors to focus on producing more and better stories for our communities."

KYLE OCKER
EDITOR
OTTUMWA COURIER

"We're looking at ways that we can use more templating technology to simplify the placement process, but also for data-driven presentations like sports, agate and other kinds of fixtures of the paper that require manual work."

MATT BOGGIE
CTO/CPO
PHILADELPHIA INQUIRER

Distribution

The U.S. local newsrooms surveyed view AI for news distribution similarly to newsgathering and production; that is, with moderate interest. Distribution includes everything involved in getting content out to consumers. Examples include publication to multiple platforms, personalization, search engine optimization, social media postings, comment moderation and push alerts.

What's happening now

Scorecard findings

Newsrooms rated the following statements on a scale of 1 to 5. The bold scores on the left reflect median values:

Strongly disagree 1	Disagree 2	Neutral 3	Agree 4	Strongly agree 5

We regularly use AI in distribution operations.

2 Print and radio managers say they do not regularly use AI in distribution.

3 TV and digital managers gave higher but neutral scores overall.

We have a few people who have tried AI technologies for distribution.

3 Print, TV and digital managers stayed neutral on this topic.

2 Radio managers were more confident that no one had experimented with AI in distribution.

We're interested in AI to potentially deliver more relevant content for the audience, which includes personalization.

5 Digital leaders are intensely interested in using AI for distribution.

4 Print, radio and TV leaders also expressed solid interest.

Our distribution managers support exploring AI for their work.

4 Further, there was consensus across all formats that distribution managers support exploring AI for their work.

What could be useful

Based on the scorecard and interviews, the following automations are what U.S. local newsrooms would like to have for news distribution:

WEBSITE PERSONALIZATION
Personalization of homepage and learning what a subscriber is interested in and delivering more of that content.

COMMENT MODERATION
Filtering by language, duplicate commenter accounts and compiling comments for marketing.

SOCIAL MEDIA SCHEDULING
Analytics to select the best time to publish and increase posting frequency.

PUBLISH TO MULTIPLE PLATFORMS
Full-spectrum automation of publishing from website to email, to push alert and to social posts.

CONTENT SYNDICATION
Distribution to syndicators and aggregators.

CONTENT TRANSFORMATION AND REUSE
Format articles as structured data to enable reuse in different platforms, format broadcast scripts for the web.

SEARCH ENGINE OPTIMIZATION
Integration with A/B headline testing, offering recommendations and integration with archives to recommend evergreen content.

PUSH-ALERT PERSONALIZATION
Extending story recommendation abilities to personalize mobile push alerts.

"It's really interesting to think about how to do distribution efficiently without big system replacements; those are hard for a lot of smaller newsrooms to deal with."

TIFFANY CAMPBELL
EXECUTIVE EDITOR
DIGITAL, WBUR-FM

"It's a lot of very manual stitching of all the data together to tell the story. You don't really have one piece of technology or an analytics tool that can do it all for us."

RACHAEL GLEASON
SENIOR MANAGER OF CONTENT MARKETING
HEARST NEWSPAPERS

Business

The U.S. local newsrooms surveyed seek ways to improve business efficiency and see AI's potential to fill a prominent gap. Examples include chatbots for customer and donor service, adaptive paywalls and ad design.

What's happening now

Scorecard findings

Newsrooms rated the following statements on a scale of 1 to 5. The bold scores on the left reflect median values:

Strongly disagree 1	Disagree 2	Neutral 3	Agree 4	Strongly agree 5

Our organization regularly uses AI in business operations.

3   Print, TV and digital managers gave neutral scores.

2   Radio managers returned lower scores overall.

We have a few people who have tried AI technologies for business operations.

3   Managers consistently provided a neutral score across all formats.

We're interested in AI to potentially improve business efficiency.

4   There is solid backing for AI to be used across the industry for business operations.

Our business leaders support exploring AI for their work.

4   Radio, TV and digital managers provided consistent support.

3   Print managers provided lower but neutral scores as a group.

What could be useful

Based on the scorecard and interviews, the following automations are what these U.S. local newsrooms would like to employ in their business operations:

AUDIENCE ANALYTICS

Tracking user journeys in detail to understand retention and sales, assisting coverage decisions, demographics, referral details, prospecting for donations, tracking which paragraph a consumer stops reading in a story and new ways to understand what kind of content engages audiences.

CRM, CUSTOMER SERVICE, SUBSCRIBER SERVICE, DONOR SERVICE, CHATBOTS

Chatbots to handle routine subscriber, member and donor service issues, self-service tools and implementing a CRM.

AD DESIGN

Design service for newspapers and digital allowing easy ways for clients to create and proof advertisements.

AD SERVICES AND COMMUNICATIONS

Making it easier to order ads at all levels including hyperlocal, suggesting ways for advertisers to improve their results, steering advertisers to proper services when they need help and reaching out to potential advertisers.

AUDIENCE / COMMUNITY ENGAGEMENT

Identifying potential donors so the audience team can follow up and tools to power community engagement.

DONOR MESSAGE PERSONALIZATION

Personalize ads, underwriting messages to prospective donors and A/B testing of donor messaging.

ADAPTIVE PAYWALLS

Determine the best time and content to show paywall content.

Publisher David Blomquist on learning new tricks

Jersey Journal Publisher and Editor David Blomquist said that at 65, he's as young a person as you might find who started journalism in the "hot-metal" days.

"Everyone who's around still as a legacy journalist understands that our continued survival is rooted in accepting and leading the charge for new technology."

He said that if AI is going to accomplish more than put journalists out of jobs, it needs to increase opportunities for expanding coverage in institutions the size of the Jersey Journal.

"I would even argue there is greater opportunity to do good in businesses of our size than at The New York Times. Those of us this size, with a 3,500 daily print circulation, our mission will only be fulfilled if we continue to find more ways to produce news creatively and imaginatively."

His AI dream is a tool that could scan an 850-page city council meeting document, and the AI having learned from previous news decisions, recognize that a redevelopment plan might be a significant move in an ongoing discussion about city growth, that there is something significant involving the pay of city employees and an ordinance is set to increase municipal water bills by 7%.

"I know all that's a reach too far," he said. "But as Robert Browning might have said, a bot's reach should exceed its grasp, or what's a heaven for?"

The JERSEY JOURNAL

News director Ernesto Romero on removing repetitive tasks

KYMA-TV in Yuma is emblematic of many smaller market stations because it broadcasts newscasts under the CBS and NBC banners, and airs programming on multiple channels for ABC, Fox, CW and Telemundo. Its designated market area of southwestern Arizona and southeastern California is vast.

As a border community, Mexico figures into its coverage as well. What KYMA-TV News Director Ernesto Romero would like most for the stations he directs is more reporters who could go deeper into Mexico to report on migrants earlier in their journey. He'd also like to cover more political stories, but Yuma isn't considered large enough by some candidates and politicians for campaign stops.

"They only come to Yuma a handful of times, whereas they'll go to Phoenix and Tucson. We're part of the state and should be allowed that same access to them that some of the bigger markets have."

With two different news brands, there is a lot of repetitive work from the one staff that powers both. Among the things that must be changed for each broadcast are graphics and signoffs.

"It would be nice for us to be able to have a system where a reporter would input something once and then it could automatically go where it needs to go. It's kind of my whole thing with having such a small team is being able to have someone do something once and then it puts itself on social media, online, or on air."

Owner Erin McIntyre on performing the weekly miracle

Erin McIntyre has run Ouray County Plaindealer with her husband, Mike Wiggins, in Ouray, Colorado, for almost three years. The weekly paper is the only source of news for the entire county, so the staff of three spends a lot of time at public meetings.

"We are the paper of record in Ouray County since 1877. We're known for being a trusted, reliable source of news that you can't get anywhere else. There are so many small, family-owned publications like ours. We're probably the youngest newspaper owners in Colorado now, but there's a lot of people who are looking to retire. Whoever takes over a small newspaper is going to need a lot of help."

McIntyre said tools that include automations could help new owners like herself, who do everything to ensure the paper goes to press; she referred to herself as "co-publisher, co-owner, co-editor, co-janitor." Ouray County Plaindealer has an audience that is seasonal and continues to rely on its printed publication, and the printer is 40 minutes north of the office.

"They are the only press in the region anymore," she said. "If we didn't print there, I would have to go five hours east or five hours south."

One of her biggest tech needs is a way for subscribers to be able to change their own addresses and to purchase past issues. For her to consider using a new tool or technology, it has to be mission critical.

"I live from week-to-week putting out this thing called a paper, which is like, frankly, a miracle every damn week. If I'm going to implement a tool, it better work because I can't be babysitting it."

Publisher DeAnna Tisdale Johnson on crossing the digital divide

DeAnna Tisdale Johnson became the publisher of the Jackson Advocate, a weekly newspaper that serves the Black community in Mississippi, in March 2020. Her parents had owned the paper since 1978. She wants to make the Jackson Advocate a multimedia company and would like to have more reporters to cover farther reaches of the state.

"Our motto is 'the voice of black Mississippians,' so those are places where we want to expand in 2022," she said. Another goal is to do more reporting that is solutions driven and investigative, like the collaborative project the Advocate did with the Mississippi Free Press on how Black women have been affected by the pandemic.

"My parents took the 'advocate' part of our name very seriously and I do, too," she said. "My dad would go to court with people, and he would pay someone's rent. We aren't just a newspaper. We've always been doing the solutions part."

The paper has long-time subscribers who are aging, and Tisdale Johnson sees an opportunity to expand the digital footprint to reach a younger audience but is uncertain how connectivity issues might impact progress.

"Letting people know about what they need to be aware of for COVID-19, it was difficult for us to reach some people digitally because of lack of broadband," she said. "We can have tools that use AI, but if people aren't attuned to digital mediums, it doesn't necessarily help us."

History is a critical part of the publication, as it's the oldest Black publication in the state founded in 1938. Tisdale Johnson places archiving as something she'd like to automate, so that all articles, photos and multimedia files are easy to find.

Digital specialist Brad Gowland on identifying the 'bird calls'

Michigan Radio's Digital Specialist Brad Gowland developed "Minutes," based on an idea from reporter Dustin Dwyer. Minutes is an application that downloads transcripts and uses machine learning to transcribe audio to text.

The app monitors sites where local governments post videos or audio of meetings, then transcribes that audio into searchable transcripts that reporters can use to research stories.

They would love to see a tool that could scan a four-to-eight-minute audio clip and determine the best parts to edit. To illustrate the point, Gowland said that as a graduate student he had written code that used machine learning to sort bird calls from field recordings. The concept was to help ecologists take surveys to estimate population sizes by how often different types of bird calls appeared in the recordings.

"Most of what you have to do there is cut out all of the silence and all the things that aren't birds," he said. "So, it's kind of the same task ... how much of this audio is trash and how much of it do I want?"

Analysis and conclusions

In this final section of the report, we focus on the needs that were surfaced in the scorecard and selected interviews and draw some conclusions about where AI solutions might be targeted at the local level to help alleviate common pain points, streamline workflows and enhance opportunities for monetization.

Newsgathering

News managers surveyed are looking for ways to make it easier for journalists to gather news more efficiently. The scorecards and interviews revealed strong support for handing off newsgathering work to automation and AI. Editor Kyle Ocker of the Ottumwa Courier in Iowa made this observation in the scorecard: "I see great potential to replace functions that used to be designated to 'news clerks' in the days of larger staffs but are now placed upon reporters and editors." The top items on managers' wish lists were transcription, along with content discovery of government documents and social media monitoring.

Transcription, viewed by some news managers as grunt work, was the most-requested automation wish in our scorecard. In technical speak, transcription tools use NLP to understand what is being said in a recording and who is saying it, then transcribes the results. With multiple commercial tools available, some newsrooms have already adopted or tested AI-based transcription technology. At KSAT-TV in Texas, News Director Bernice Kearney called the transcription tool Trint "a game-changer," especially during the pandemic when most civic meetings have been recorded. Oregon Public Broadcasting also uses transcription, and Chief Content Officer Morgan Holm describes transcription as something that makes newsgathering more efficient, allowing the newsroom to put more resources "into the human part of newsgathering."

Additionally, some newsrooms want to take transcription further by automating alerts of potential newsworthy topics discovered in transcripts.

Multiple newsrooms in scorecards and interviews asked for help with gleaning insights from government meetings and documents. Ouray County Plaindealer in Colorado already applies AI transcription to

recordings of government meetings. Co-founder Erin McIntyre wants to go a step further and get alerts from those transcripts. Technically, this type of content discovery can use both ML and NLP. The San Francisco Chronicle also wants to get to the point where AI delivers alerts on newsworthiness based on a transcript of a city council, school board or board of supervisors meeting. With hundreds of government bodies in its coverage area, the Chronicle wants automation to take over initial coverage of some governmental meetings. PACER, the website used to search court documents, evoked frustration from several reporters, who spend a lot of time and money pulling records. Kate Hessling, editor of the Michigan-based Midland Daily News, said she would have liked to see automated alerts for when records, dockets and rulings are updated.

Some news managers asked for help with social media monitoring.
While commercial tools exist, some would like to go further. WTAE-TV News Director Jim Parsons said that sometimes events happen in the communities the Pennsylvania station serves, and the reporting team misses it on social media. "We don't have a great system in place, other than keeping our eye on TweetDeck 24/7," he said. WTAE-TV relies on manual scouring of local websites and social media that AI may help solve. "It would help to have some 'robotic eyeballs' trying to find these events." Social listening tools combine both ML and NLP.

Production

Across the survey and interviews, news managers said they want to streamline their production workflows using AI and automation.
Executive Editor at the Traverse City Record-Eagle in Michigan Nathan Payne described tasks like laying out pages that have a rigid design, such as weather pages, as "busy work" and having "low human demands." In addition to automating page layouts, news managers also said they want to automate social media content creation, along with photo, video and audio suggestions.

Automating page layouts is one of the most-requested items on the wish list by print newsrooms. From a technical perspective, an AI layout tool would use ML and NLP. "There's a big potential for the layout of obituaries and sports agate," said Ohio Lima News Editor David Trinko. "Anybody who's ever designed either knows what a pain that can be, but they're very standardized processes." Some newsrooms, however, wonder which layouts should be automated. Web Editor Amy Libby of the Washington-state based The Columbian sees layouts as a creative endeavor. It's "where I go and play and you have art and do fun things and cutouts and all that kind of stuff," she said.

Newsroom leaders described automating social media content creation as a significant need, along with optimizing and scheduling posts. Some managers spoke of wanting to automatically repurpose existing content for social media, while others spoke of generating original content for social media. Managing Editor Halle Stockton of Pittsburgh's PublicSource said that automation would "lighten the load of social media posting while keeping our feeds fresh and lively." Sharing original stories on social media takes "a lot of time and energy," said KYMA-TV News Director Ernesto Romero of the additional duty on his Arizona digital team. Sometimes, social media duties are split among multiple people, leading to inconsistent posting. News Editor Jason Ubay of Hawaii Public Radio said some days they have one or two social posts, while on others five to 10, and that it all depends on workloads. Executive Editor Payne in Traverse City said he'd like to optimize posts, schedule posts to match or maximize audience reach and tailor social media posts for different audiences. Several commercial tools exist to optimize and schedule posting to social media and use AI techniques including ML and NLG.

Automated text writing was the third-most requested production wish among those surveyed and interviewed. The technology, which AP and its partners pioneered, is now widely available. These automated writers use the AI technique of NLG and require a structured data source. If data is available in a spreadsheet, the information can be plugged into an auto writing system and produce a similar article every time. Whereas AP automated reports on business earnings and college sports, local newsrooms surveyed would like to automate stories on high school sports, weather, police logs, election results, restaurant report cards, grain bids, business licenses, real estate and community calendars. In the scorecards, multiple newsrooms also saw a need for automated text writing to craft COVID-19 case updates. Data Editor Matt Kiefer of WBEZ-FM in Illinois noted in the scorecard that "dumping data on our audience may not help them completely understand the issue, so automated text generation could help us bridge the divide from structured data to readable text."

Another area mentioned for streamlining newsroom workflows was the potential for automating suggestions for photos, video and audio to accompany text stories. In an interview, a digital director said that having automation suggest matching video clips for a story package would help her to produce stories more efficiently. Further, automation here could tie into an engagement strategy to increase the amount of time audiences spend on digital platforms. AI-technology powering suggestions could include computer vision, ML and NLP.

Across our research, newsroom managers often described production automation needs that don't require AI technology. A typical example is automatically publishing to multiple social media channels. Commercial tools exist for basic process automation. Kate Hessling, the Michigan editor, said her team used IFTTT to post items to Facebook and Twitter simultaneously. Such comments led us to conclude that some newsrooms would see significant time-saving benefits by implementing simple automation.

Distribution

As audiences increasingly consume news through digital products, local newsroom managers expressed a strong desire to deliver more timely and relevant content across all channels. In surveys and interviews, newsrooms sought automation for audience analytics, story recommendations, website personalization and comment moderation. WBUR-FM in Massachusetts Executive Editor for Digital Tiffany Campbell said she was looking for anything to help her newsroom "publish more and more efficiently without compromising quality."

Audience analytics turns raw digital data into usable information, allowing news and business managers to make coverage and strategic decisions. ML powers many of these tools. "We are especially interested in using AI to create a more personalized and relevant experience for diverse audience members with different interests," wrote KOSU-FM in Oklahoma Executive Director Rachel Hubbard in the scorecard. Hubbard's views represented many newsrooms, as audience analytics ranked fourth on the automation wish list.

Analytics tools are commercially available and are used by multiple newsrooms that took our survey. Even newsrooms that have access to analytics wanted to learn more about their audience. Editor Alison Gerber of the Chattanooga Times Free Press in Tennessee described wanting to know what paragraph, or perhaps sentence, that a reader stopped reading in an article. A station manager at a public broadcaster said in an interview that they'd like to have an AI-powered solution that combines potential content with market data to make suggestions as to what content would perform better on a specific day. Additionally, from a business intelligence perspective, Hearst Newspapers Senior Manager of Content Marketing Rachael Gleason would like a tool that automatically stitches together data held in disparate locations to tell a story about customer journeys and to make optimization recommendations. (Gleason spoke as part of our interview with the San Francisco Chronicle.)

Several newsrooms said they'd like to personalize ads and subscription offers. An executive at a public broadcaster said a system for streamlining promotional advertising across different social channels could be valuable. Web Editor Libby of The Columbian said in the interview that the Washington state paper would like to target subscription offers and advertising. "If you live in Camas, we're going to show you Camas ads. It would be nice for the business to use, as long as we're not trading on people's privacy."

Public broadcasters reported in the scorecard that more insights into their audiences could help with donations. A California public broadcaster said that it would like to have more personalized donor messaging online and WBEZ-FM in Illinois reported that there might be some opportunities around pledge drives in finding the most effective messaging for potential members.

Story recommendations and website personalization were fifth and sixth, respectively, on the automation wish list. Both involve ML and NLP and are examples of what can be done with audience analytics. Survey participants viewed story recommendations in two distinct ways. The first was from the producer side with techniques that identify related content before posting. For example, North Carolina WRAL-TV Digital Product Manager Jake Seaton would like automation to recommend stories based on the historical performance of that topic. It seeks "to elevate a story that may not otherwise be on the producer's radar." Story recommendations were also viewed by local news leaders from the audience side, where stories would be recommended based on the reader's viewing history and preferences.

Many newsrooms indicated that they would like to personalize the website homepage, so readers could get stories that they want above the fold. "I would rather have a site that is reading the person and using flexible content," said Kirk Dougal, The Lima News Publisher. "If they're always going to local sports first, serve that upfront." Widening the scope of personalization, Libby of The Columbian suggested news that is important and specific to the Pacific Northwest would be ideal to surface to their audience. "Boeing stories are important to us because we have a Boeing facility within our distribution area," she said. "Reports on Boeing could then be put out into the world on Twitter or Facebook or wherever we would want them to go without me having to touch every single one."

Automating comment moderation was a top-10 wish in our survey. The technology is an exercise in ML and NLP, with some notable services developed in recent years. However, the scorecards and interviews tell us more work needs to be done in this field. In Texas,

KSAT-TV News Director Kearney wrote that their AI-based comment moderation system "still requires significant human input." Some news organizations have removed comments on website articles or limited who can comment. The San Francisco Chronicle limits comment to its website subscribers. It also has reporters circulate within the comments on high-interest articles to answer reader questions. Michigan's Traverse City Record-Eagle uses Facebook for comments because people must log in and use their name, limiting runaway comments. The Columbian's Libby said comments were eliminated from the Washington publication's website in March 2021. "I was just sick of it," she said. "They were bad for my mental health." The Columbian now uses commenting features on its Facebook page instead of hosting those conversations on the website.

Business

Newsroom managers were interested in supporting the business side of the operation with enhanced revenue-generating solutions and better decision-making data. In addition to audience analytics described previously, local news leaders told us they'd like to have automated customer and donor service capabilities, automation for advertisers including ad design and tools to increase subscribers and donors.

Automating customer service and donor service functions ranked in the top 10 of the survey. Depending on the level of automation, perhaps with chatbots, such systems can incorporate NLP and ML. At a fundamental level, multiple local newsrooms wanted access to a customer relationship management system (CRM). Newsrooms that use a CRM wanted to do more, perhaps adding chatbots to handle routine service inquiries. In an interview, Ouray County Plaindealer's McIntyre said she would like automation to help with mailing address changes because many subscribers are seasonal residents.

The scorecard also elicited requests to automate ad services and ad design. The Santa Fe New Mexican wrote that they would like to have "AI-driven design of online ads." Having automation help advertisers create their own ads is an opportunity multiple newsrooms would be interested in. The technology would likely rely on ML and NLG. Dave Fellabaum, Executive Director of Information Systems of the Tribune-Review in Pennsylvania, pushed for making it easier for digital advertisers to place orders.

The San Francisco Chronicle said in an interview that the newsroom and business side share the same interest to increase subscribers

and engagement and to limit churn. Recently the paper has met its subscription goals and said they'd like to focus now on retaining subscriptions and analyzing churn. "Technology that gives insight into the customer journey and how that can be optimized would be valuable," said Hearst Newspapers Senior Manager of Content Marketing Rachael Gleason. Tampa Bay Times said it would like to have better tools for targeting potential subscribers, while digital publications and public broadcasters told us they would like tools to increase membership and donations.

Several leaders spoke about the need to make the transition from traditional output — print, radio and television — and help their readers find them on the web and social media. Traverse City Record-Eagle Publisher Paul Heidbreder said "developing, improving and increasing our digital presence" was an overarching business goal. Oregon Public Broadcasting Chief Content Officer Morgan Holm said, "to survive in a digital world, the secret for us is creating content primarily for digital platforms and then figuring out how we can put it on broadcast. We have to flip that model 180 degrees and then realize that different platforms bring different audiences."

New technology, of course, is needed to accomplish the transition from legacy to digital. Newsrooms in the scorecard and interviews said that making the business case for new technology involves a range of challenges from determining need, sifting through various application options and then figuring out how to integrate something new into existing infrastructure. For the Tampa Bay Times, implementing new technologies is "a mixed bag," said Product Manager James Collins. "One of the primary drivers is when a system contract is about to expire. Do we renew or replace?" The second driver is when the software "just bites the dust." A third driver is when a staff member goes to a seminar and sees a pitch, then it will come down to cost. To make the budget work, some newsrooms partner with university talent and seek foundation funding to address technological gaps.

Reflecting the views of many respondents, a commercial TV station engineering director said that if there is a technology or a product that will help in producing news better and delivering it more efficiently to audiences, "We'll chase it, if we believe it will make a difference."

Key Takeaways

Newsgathering

– Significant workload reductions could be seen with increased use of transcription tools.

– Alerts from the posting of new government documents could help journalists keep watch over more agencies.

– Improvements to social media monitoring could help newsrooms stay on top of content discovery.

Production

– Tools to help generate, optimize and schedule social media posts could be big time savers, especially for small newsrooms where staff add social to their other duties.

– Automating page layouts could reduce workloads for print newsrooms.

– Having automated writing applications pick up briefs, such as for high school sports and weather, could help newsrooms reallocate journalists to focus on writing more substantive stories.

– Automation that helps suggest photos, video and audio items to match text stories could speed up the production process.

Distribution

– Implementing audience analytics could help newsrooms create a baseline for personalizing news content and advertising, along with honing pitches to potential subscribers and donors.

– Content moderation systems could help newsrooms deal with a high volume of audience feedback.

Business

– A robust CRM and chatbots would be helpful to handle routine subscriber and donor-service issues.

– Benefits are possible from helping digital advertisers place and design their own ads with help from AI-powered services.

– Many local outlets would be interested in tools to increase subscriptions, memberships and donors.

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The two leaders on AP's Local News AI initiative, Aimee Rinehart and Ernest Kung, were new to the organization. They quickly came to know the teams across many departments that provided expertise on every facet of this project.

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Local newsroom leaders

We appreciate the time local newsroom leaders took to share what is happening in their news operation. We circled back to 25 newsrooms to conduct interviews on a recorded Zoom meeting with some conversations lasting nearly two hours. Thank you for your generosity of time and for relaying your newsroom experiences. Four newsrooms asked not to be identified in the list below.

ALABAMA

The Lamar Democrat

WBHM-FM

ALASKA

Daily Sitka Sentinel

KTUU-TV

ARIZONA

Arizona Daily Star

KYMA-TV

TucsonSentinel.com

ARKANSAS

Helena World

CALIFORNIA

Bay City News

KCRA-TV

KFI-AM

KNX-AM

KPBS-FM/TV

KQED-FM

KUSI-TV

Lodi News-Sentinel

Outlook News Group

San Francisco Chronicle

The Appeal-Democrat

The Bakersfield Californian

The Sacramento Bee

Voice of San Diego

YubaNet

COLORADO

CPR News

KRDO-TV

KREX TV

KSJD-FM

Ouray County Plaindealer

CONNECTICUT

Patch

WLAD-AM

DELAWARE

Delaware State News

WDDE-FM

WDEL-AM

DISTRICT OF COLUMBIA

Center for Public Integrity

WAMU-FM

WFED-AM

FLORIDA

Tampa Bay Times

USA TODAY Network / Gannett

WLRN-FM

WUSF-FM

GEORGIA

Atlanta Journal-Constitution

Forsyth County News

The Korea Daily Atlanta

The Times

The Walton Tribune

WJSP-FM

WMGT-TV

GUAM

KUAM-TV

Pacific Daily News

HAWAII

Hawaii Public Radio

IDAHO

East Idaho News

ILLINOIS

Christianity Today

The Pantagraph

WBEZ-FM

WILL-AM

WNIJ-FM

INDIANA

South Bend Tribune

WBIW-AM

WNIN-FM

IOWA

Lee Enterprises

Globe Gazette

KCCI-TV

Kossuth County Advance

Ottumwa Courier

Telegraph Herald

The Gazette

WOI-AM

KANSAS

KAYS-AM

KWCH-TV

The Emporia Gazette

The Kansas City Beacon and The

Wichita Beacon

Wichita Eagle

KENTUCKY

Casey County News

Clinton County News

Crittenden Press

Daily News

Leader-News

The Lebanon Enterprise

The Messenger

WPSD-TV

WUKY-FM

LOUISIANA

The Advocate and The Times-Picayune

MAINE

Portland Press Herald

MARYLAND

Cumberland Times-News

WBAL-TV

MASSACHUSETTS

Boston Herald

The Berkshire Eagle

The Sun Chronicle

WBUR-FM

WBZ-AM

MICHIGAN

Cadillac News

Great Lakes Now

Michigan Radio

Midland Daily News

The Alpena News

Traverse City Record-Eagle

WWTV-TV

WZZM-TV

MINNESOTA

KEYC-TV

Star Tribune

WCCO-TV

MISSISSIPPI

Jackson Advocate

WLOX-TV

MISSOURI

Houston Herald

KFVS-TV

KMZU-FM

The Joplin Globe

MONTANA

KATL-AM

KSEN-AM

KULR-TV

NEBRASKA

KETV-TV

Lincoln Journal Star

Omaha World-Herald

NEVADA

The Nevada Independent

This Is Reno

NEW HAMPSHIRE

The Telegraph

NEW JERSEY

The Jersey Journal

Westfield Leader

NEW MEXICO

Albuquerque Journal

New Mexico News Port

Santa Fe New Mexican

NEW YORK

HuntingtonNow.com

The Buffalo News

The Haitian Times

Times Union

WBNG-TV

WDNY-FM

WNYC-FM

NORTH CAROLINA

Sandhills Sentinel

The News and Observer

WRAL-TV

NORTH DAKOTA

KFYR-TV

OHIO

Ohio Center for Journalism

Richland Source

Sentinel-Tribune

The Business Journal

The Lima News

The Plain Dealer

WSNY-FM

OKLAHOMA

KOSU-FM

Mvskoke Media

OREGON

Herald and News

Oregon Public Broadcasting

The Register-Guard

PENNSYLVANIA

Centre Daily Times

Gettysburg Connection

Philadelphia Inquirer

PublicSource

The Daily Review

The Times-Tribune

Tribune-Review

WESA-FM

WFMZ-TV

WTAE-TV

PUERTO RICO

El Vocero de Puerto Rico

RHODE ISLAND

The Providence Journal

WPRI-TV

SOUTH CAROLINA

The Post and Courier

SOUTH DAKOTA

KELO-AM

TENNESSEE

Chattanooga Times Free Press

Knoxville News Sentinel

Main Street Nashville

WTFM-FM

TEXAS

El Paso Matters

Houston Chronicle

KOSA-TV

KSAT-TV

KUHF-FM/TV

KUT-FM

Texarkana Gazette

UTAH

The Salt Lake Tribune

VERMONT

Brattleboro Reformer

VTDigger

VIRGINIA

Daily News-Record

WRIC-TV

WASHINGTON

KOZI-FM

The Columbian

The News Tribune

The Seattle Times

WEST VIRGINIA

The Intelligencer

The Record Delta

WISCONSIN

Kenosha News

La Crosse Tribune

WGTD-FM

WISN-TV

WTMJ-AM

WYOMING

KODI-AM

Oil City News

Outreach and AI landscape

America Amplified

American Press Institute

Audacy

Big Local News

Brown Institute at Columbia

Center for Community Media

Center for Public Integrity

Center for Cooperative Media, "The Local Connection"

COLab

Gannett

Hacks/Hackers

Hearst Connecticut Media Group

Institute for Nonprofit News

IRE/Nicar

Jackson Advocate

JournalismAI

Knight Foundation

Lee Enterprises

LION

Local Media Association and Word in Black

Local Media Consortium

McClatchy

MuckRock

National Federation of Community Broadcasters

News Media Alliance

News Product Alliance

NewsQ

NYC Media Lab

Partnership on AI

Poynter, "Local Edition," AP wants to help local newsrooms with AI and automation

Reynolds Journalism Institute, University of Missouri

RTDNA, How AI can help journalists and deliver better journalism

Solutions Journalism Network

South Bend Tribune

The National Trust for Local News

Tiny News Collective

Trusting News

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If we missed you or your organization, we apologize for the oversight and ask that you email ai@ap.org to let us know. If you would like to help AP share upcoming AI programmatic details like the free online course and the AI project pitch information, please email ai@ap.org.

Northwestern students

Northwestern University: Knight Chair for Digital Media Strategy at Northwestern University Medill School Jeremy Gilbert and Executive Director at Knight Lab Joe Germuska devoted their fall 2021 class to help us shape the scorecard and interview questions, conduct the interviews with 25 newsrooms, and provide an AI product overview. Many thanks to students Hannah Barton, Helen Bradshaw, Joshua Hoeflich, Grace Lee and Sammie Pyo. Some of the students shared their insights from the interview experience:

Adopting tech

"Interviews revealed how mysterious AI seems to non-technical people. Adoption of AI technologies could be improved by making tools more approachable to people without a formal tech background."
—Joshua Hoeflich

Ethical concerns

"It's important to start creating legal guidelines for newsrooms in using AI, because even though few might intentionally misuse it, less experienced newsrooms could use some best practices."
—Hannah Barton

Smaller, the better

"We interviewed the director of a radio station of "two-and-a-half" staff and realized that it is imperative that local newsrooms like these have access to automation tools to serve their communities."
—Helen Bradshaw

Appendix

Automation wish list

We've organized the automation wish list items presented in the findings section here by the number of times they were requested overall. It's important to note that journalists share many common needs despite differences in format. Our results for the automation wish lists are based on 135 scorecards where people could ask for whatever they wanted. We ranked each need by the number of times they were mentioned by a news organization, with each newsroom getting one vote for each item on the wish list.

AUTOMATION WISH LIST	PRINT	RADIO	TV	DIGITAL ONLY	TOTAL
transcription *	29	16	12	8	65
social media content creation *	18	14	6	10	48
auto writer (structured data) *	21	11	4	4	40
audience analytics *	16	7	8	5	36
recommendations, story *	19	7	6	4	36
website personalization *	17	6	5	4	32
CRM *, customer service functions, subscriber and donor services	14	6	2	6	28
page layouts *	22	2	2	1	27
comment moderation *	12	5	4	1	22
photo suggestions *	7	5	3	3	18
newsletters	7	2	1	5	15
data analysis	10	1	2	2	15
high school sports coverage	8	2	1	3	14
auto writer (unclear data type)	6	2	2	1	11
sports score layout/agate	7	0	2	1	10
social media scheduling	6	2	1	1	10
chatbots, subscriber service *	9	1	0	0	10
document analysis, large data sets	5	3	0	1	9
ad design *	7	0	0	2	9
ad services	6	1	1	0	8
graphics, data visualization	3	2	1	2	8
content discovery (structured data)	4	2	1	0	7
translation	2	2	1	2	7
publish to multiple platforms	3	1	3	0	7
SEO	2	1	2	2	7
auto writer (unstructured data)	2	1	2	1	6
publish from CMS to web	4	0	2	0	6
audience/community engagement	1	0	3	2	6
archives, photo	3	3	0	0	6
community calendar	4	0	0	1	5
analytics (unclear what type)	2	3	0	0	5
website curation	2	3	0	0	5

AUTOMATION WISH LIST	PRINT	RADIO	TV	DIGITAL ONLY	TOTAL
CMS improvements	3	2	0	0	5
content discovery (unstructured data)	4	0	0	1	5
government meetings, coverage	2	1	1	1	5
photo ingestion with metadata	2	2	0	0	4
donor messaging personalization	0	2	1	1	4
personalization (unclear what type)	2	2	0	0	4
captioning video and audio	0	1	2	1	4
government meetings, sorting agendas	3	0	0	1	4
metadata, stories	2	2	0	0	4
photo, editing	2	0	1	1	4
chatbots, donor service	0	2	0	2	4
summarization, text	3	0	1	0	4
archives, story	2	1	1	0	4
data entry	2	1	1	0	4
subscribers, increase	3	0	0	0	3
identify manipulated or out of context media	1	1	0	1	3
metadata, unspecified	2	0	1	0	3
social media monitoring	2	0	1	0	3
police log publishing	3	0	0	0	3
video suggestions	0	2	1	0	3
AP Services	1	0	1	1	3
attract subscriptions	1	0	0	1	2
media monitoring	0	2	0	0	2
cover employee off-hours	0	2	0	0	2
push alert personalization	0	1	0	1	2
agate, no detail	1	0	0	1	2
text to speech	1	0	0	1	2
collect state wire stories	2	0	0	0	2
paywall, flexible and adaptive	2	0	0	0	2
middleware	2	0	0	0	2
crowdsourcing, unspecified	1	0	0	1	2
tips, responses	0	1	1	0	2
election coverage	2	0	0	0	2
ugc (user-generated content), processing	2	0	0	0	2
teleprompter	0	0	2	0	2
content transformation and reuse	1	0	1	0	2
archives, video	1	0	1	0	2
donors, prospecting	0	0	0	2	2
analytics, business	1	0	0	1	2
push alerts	0	0	2	0	2
scheduling (unclear what it refers to)	0	0	0	1	1
scheduling broadcast times	0	1	0	0	1
advertiser communications	1	0	0	0	1
audio imaging	0	1	0	0	1

AUTOMATION WISH LIST	PRINT	RADIO	TV	DIGITAL ONLY	TOTAL
video editing	0	0	1	0	1
marketing materials	1	0	0	0	1
content syndication	0	1	0	0	1
alerts for programming and radio operations	0	1	0	0	1
podcast production	0	1	0	0	1
identify overused elements	1	0	0	0	1
pages, preparation for printer	1	0	0	0	1
offer price optimization	1	0	0	0	1
identification of new human sources	0	1	0	0	1
crowdsourcing, images for web stories	0	1	0	0	1
inventory management	0	0	1	0	1
content discovery (evergreen content)	0	0	1	0	1
track content reuse by other services	0	0	0	1	1
photo galleries	1	0	0	0	1
scheduling, publication	1	0	0	0	1
tips, verification	0	0	0	1	1
agriculture coverage (grain bids)	1	0	0	0	1
identify mis/disinformation	0	0	1	0	1
metadata, video	0	0	1	0	1
graphics, broadcast production	0	0	1	0	1
recommendations, video	0	0	1	0	1
weather, unspecified	0	1	0	0	1
college sports coverage	0	1	0	0	1
minor league stories	0	1	0	0	1
grant mining	0	1	0	0	1
grant writing	0	1	0	0	1
content scheduling, dayparting	1	0	0	0	1
chatbots, news delivery	0	0	0	1	1
business license publishing	1	0	0	0	1
government coverage	1	0	0	0	1
press release processing	1	0	0	0	1
source diversity tracking	0	1	0	0	1
audio suggestions	0	1	0	0	1
fact checking	0	0	0	1	1
identify under-covered topics	0	0	0	1	1
review photos and videos	1	0	0	0	1
sponsorships, prospecting	0	0	0	1	1
website publishing	0	0	0	1	1
FOIA request management	1	0	0	0	1
real estate transactions	1	0	0	0	1
graphics, suggestions	0	0	0	1	1

*This wish list item was among a list of examples provided in the digital survey to help clarify the types of automations we were seeking.

Scorecard stats

Here's a detailed look at the scorecard data from 187 newsrooms used to inform this report. The scorecard composite score measures AI readiness, knowledge and usage. It is calculated on a scale of 24 to 120. We also calculated how much AI is already being used in a newsroom on its own; that measure is on a scale of 0 to 6. The balance of the scorecard was answered on a scale of 1 to 5, with one being strongly disagree, three neutral and five strongly agree.

MEASURES AND QUESTIONS	PRINT (90 newsrooms)		RADIO (44 newsrooms)		TV (31 newsrooms)		DIGITAL (22 newsrooms)	
	AVERAGE	MEDIAN	AVERAGE	MEDIAN	AVERAGE	MEDIAN	AVERAGE	MEDIAN
Number of staff	104.41	45	85.36	50	104.35	100	23.82	11
Scorecard composite score	71.89	74	71.43	73	76.71	75	77.05	82
AI usage	1.17	1	0.93	1	1.61	1	1.09	0
1. We have a good understanding of what AI is and how it relates to journalism.	2.89	3	2.64	3	2.71	3	3.14	3
2. Our organization has a solid strategy for AI that crosses all departments.	1.74	1	1.59	1	1.65	2	1.91	2
3. We feel ready for AI technologies in our operations.	2.40	2	2.34	2	2.55	2	2.77	3
4. We are concerned about falling behind in AI.	3.48	3	3.43	4	3.48	4	3.32	4
28. We have the financial resources to invest in AI.	2.58	3	2.39	3	2.84	3	2.32	3
29. We have people with AI skills in our organization.	2.62	3	2.55	3	3.13	3	2.73	3
30. We can allocate time to work on AI projects.	3.09	3	3.20	3	3.42	4	3.55	4
31. We're confident that AI can take on repetitive tasks to free up resources for more substantive work.	3.82	4	3.82	4	3.84	4	4.36	5
7. Our newsroom regularly uses AI in newsgathering.	2.19	2	2.27	2	2.77	3	2.23	2
8. We have a few people in the newsroom who have tried AI technologies for newsgathering.	2.56	2	2.64	2	2.87	3	2.45	2
9. We're interested in AI to potentially help reduce the workload for our journalists.	3.92	4	4.07	4	4.23	4	4.50	5
10. Our journalists support exploring AI for their work.	3.40	3	3.73	4	3.58	4	3.64	4

MEASURES AND QUESTIONS	PRINT (90 newsrooms)		RADIO (44 newsrooms)		TV (31 newsrooms)		DIGITAL (22 newsrooms)	
	AVERAGE	MEDIAN	AVERAGE	MEDIAN	AVERAGE	MEDIAN	AVERAGE	MEDIAN
12. We regularly use AI in production operations.	2.16	2	1.91	2	2.61	3	2.32	3
13. We have a few people who have tried AI technologies for production.	2.49	2	2.43	2	2.48	2	2.77	3
14. We're interested in AI to simplify production operations.	3.90	4	4.09	4	3.97	4	4.36	5
15. Our production managers support exploring AI for their work.	3.31	3	3.77	4	3.55	4	3.91	4
17. We regularly use AI in distribution operations.	2.49	2	2.02	2	2.81	3	2.55	3
18. We have a few people who have tried AI technologies for distribution.	2.72	3	2.27	2	3.06	3	2.68	3
19. We're interested in AI to potentially deliver more relevant content for the audience (this includes personalization).	4.10	4	4.14	4	4.29	4	4.36	5
20. Our distribution managers support exploring AI for their work.	3.69	4	3.77	4	4.10	4	3.77	4
23. Our organization regularly uses AI in business operations.	2.42	3	2.23	2	2.42	3	2.41	3
24. We have a few people who have tried AI technologies for business operations.	2.54	3	2.45	3	2.61	3	2.59	3
25. We're interested in AI to potentially improve business efficiency.	3.87	4	3.89	4	3.97	4	4.23	4
26. Our business leaders support exploring AI for their work.	3.51	3	3.80	4	3.77	4	4.18	4

Technologies in use today

Here are some of the technologies used by newsrooms that completed the scorecards and interviews. This is by no means a comprehensive list of the technologies used and does not reflect the breadth of tools commercially available. Not all the technologies contain AI. AP does not endorse third-party products.

MONITORING AND RESEARCH
AP Newsroom, Dataminr, Follow That Page, Klaxon, LexisNexis, NewsWhip, PACER, Workbench

COLLABORATION
Airtable, Slack, Teams, Trello, WhatsApp

TRANSCRIPTION AND LANGUAGE
Grammarly, Otter, Trint

DOCUMENT ANALYSIS
Document Cloud, Google Pinpoint

CMS (ALL FORMATS), DIGITAL PUBLISHING
AP ENPS, Arc, Canva, Chorus, Dalet, IgniteTech Olive, Inception, NewsBoss, Storyform, StoryMate, Tecnavia, TownNews BLOX, Triton Digital, Wildmoka, WordPress

CODING
Colaboratory, GitHub, JavaScript, Python, R, SQL

DATA VISUALIZATION
DataWrapper, Flourish

PROCESS AUTOMATION
IFTTT

TEXT TO SPEECH
Polly

AUDIENCE ANALYTICS, ENGAGEMENT, COMMENT MODERATION
Airship, Chartbeat, Coral Project, CrowdTangle, Disqus, Futuri, Google Analytics, Hearken, Looker, Mather, OpenWeb, Parse.ly, Viafoura

SOCIAL MEDIA POSTING AND SCHEDULING
Hootsuite, SocialFlow, Social News Desk

NEWSLETTERS AND EMAIL
Listrak, Mailchimp, Sailthru, Second Street Lab

CRM
BlueConic, Inka, Salesforce

MARKETING
Semrush, Wunderkind

THE ASSOCIATED PRESS

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