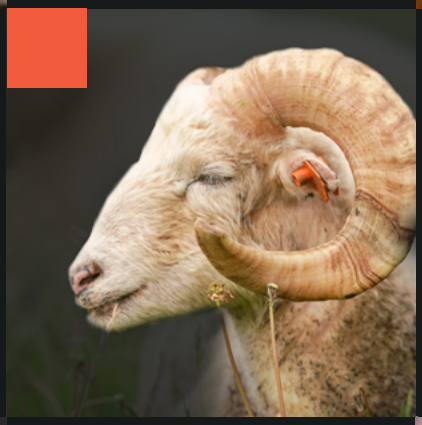


VEGAN HACKTIVISTS

compassion. creativity. code.

# TECH & DATA *in the* MOVEMENT

A Snapshot of the Animal Protection Movement in the Digital Era

AUGUST 2023

## Amplifying Our Commitment to Tech

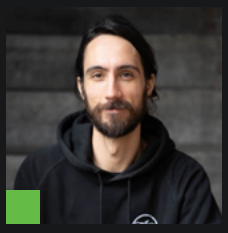
We are living in one of the most promising times in history. Technology has the potential to transform the animal protection movement in a multitude of ways and at an unprecedented speed. We have to understand and harness the full spectrum of technology if we are to meet our goals within our lifetimes. And we also have to anticipate their implications and potential impact, for society, our planet, and for the lives of animals.

Each tool and platform plays a pivotal role in our collective success: From websites and apps to elevate our work, to advanced tools like artificial intelligence and automation for efficiency, to security and anti-hacking measures to protect our data. Integrating cutting-edge technologies and using them in innovative ways will be the catalyst for a better future for the animals.

This report is a small, but necessary, step to identify the promises and pain points in our movement related to the use of data, technology, and security. At Vegan Hacktivists, we are excited to continue researching, discovering, and learning how to help the movement with technology. Our commitment is clear: Use technology to help each organization do their part in rapidly advancing animal liberation. We hope you find this report useful.

In solidarity,

David van Beveren



Founder and President
Vegan Hacktivists

### CONTRIBUTORS:

**Research** ▪ Gülbike Mirzaoglu & Sueda Evirgen, Animetrics
**Content** ▪ Malina Tran & Midori Nishioka
**Design** ▪ Kate Rodman & Leanne Bowers

*Special thanks to Faunalytics for their guidance with this study*

# CONTENTS



# EXECUTIVE SUMMARY

**Recent advancements in and accessibility of technology, data, and analytical methods have significantly altered the landscape of social movements.** This technological era has the unique opportunity to mobilize people and shed light on issues and conditions on a mass and viral scale. The animal protection movement, which aims to prevent, reduce, or eliminate the harms that humans inflict upon non-human animals, can increase its impact by learning how to effectively leverage technology and data. However, very little is known about how those within the movement use tech and data in their work.

To address this gap, we surveyed 114 organizations operating in various regions of the world, and asked about their use of tech and data as well as challenges and needs related to adopting tech and data. Key findings of the study include the following:

### Workforce and Resources

Most organizations relied on external tech support, and sufficient staffing and expertise were the most common challenges with using tech. Although increasing funding alone may not necessarily lead to prioritizing tech and data, we consistently found disparities such that organizations with more resources used and prioritized tech and data more than those with fewer resources.

### Website and Applications

Most organizations had a website, but there were serious issues, including lack of accessibility to individuals with visual or auditory impairments. Organizations also likely recognized their challenges with building websites, as many reported a strong desire for free web design services. Most organizations did not have a mobile app, but there was some interest in building one in the future.

### Social Media and Other Tech Tools

Social media was the most commonly used tool, with Facebook and Instagram taking the top spots. Other popular tech tools were those used for internal and external communication, such as email and virtual meeting software. Overall, organizations reported that using tech tools improved their efficiency. Compared to organizations with more resources, those with fewer resources were less reliant on tech, but they nevertheless expressed a desire for volunteer services that offer tech-related support.

### Data Collection and Analysis

Most organizations collected data, and they most often analyzed the data to understand what happened and why. However, many organizations, particularly those with fewer resources, were not confident in their data analysis expertise.

### Security Measures

A small number of organizations experienced security problems, but these incidents have serious consequences, including loss of accounts and data. Fortunately, most organizations adopted password protection measures, but some organizations were not using any measures to secure passwords.

## Based on these findings, we highlight several recommendations:

**1**

**Donors and funders should prioritize supporting organizations with limited resources** to alleviate some of the barriers to leveraging tech and data. Funds should also be directed to building tech and data-related skills within the movement to help fill the gap in expertise.

**2**

**Free tech-related services, including website design and data analysis, should be offered to organizations with limited resources.** These services can also focus on improving the accessibility of websites and applications.

**3**

Given the increasing use of mobile devices, organizations should strengthen their presence and reach by **building mobile-compatible websites and mobile applications.**

**4**

Organizations should also **consider expanding their reach by using different social media platforms**, such as TikTok, to engage younger audiences.

**5**

**Effective and low-cost measures to secure data and accounts should be shared** with organizations, so that the movement is well-protected from malicious actors.

# INTRODUCTION

**The rise of innovative digital technologies and social media have transformed the landscape of social movements.**

Across a range of causes, activists and advocates are becoming more reliant on technology to reach their audience (Carty, 2018). And rightly so: Technology and data have the power to mobilize support, help with fundraising efforts, and innovate new solutions.

In particular, the animal protection movement stands to benefit significantly from leveraging technology and data to advance animal welfare and rights. "Animal protection" refers to a collective and sustained action aimed to prevent, reduce, or eliminate the harms that humans do to animals. This term includes a wide range of efforts aimed at promoting the welfare, rights, and ethical treatment of animals. Though a relatively young movement, there is a long and storied history of individuals and groups across the world working to protect non-human animals (Orzechowski, 2020), including farmed animals, animals used in science and entertainment, and wild animals. Those within the movement take a variety of approaches in their work, such as animal rescue, outreach, education, research, policy work, capacity-building, grant-making, and more. Advancements in digital technology and data collection methods have the potential to further these efforts and propel the movement forward.

However, very little is known about the use of technology and data in the movement. To address this gap, we surveyed organizations varying in size, purpose, and countries of operation. The goals of this study were to understand how organizations use technology and data, to identify challenges, and to provide actionable solutions for organizations. To the best of our knowledge, this is the first extensive research conducted on this topic. We hope that our findings contribute toward a clearer understanding of the movement and more investment in a data-driven, evidence-based social movement.

# METHODOLOGY

## We invited organizations and businesses in the animal protection movement to participate in an online questionnaire.

We identified and outreached to 335 groups by email, as well as openly promoted the survey on social media. Our goal was to capture the diversity within the global animal protection movement by inviting advocates and organizations across a range of factors, including location, purpose, organizational structure, annual budget, and workforce. Respondents were required to be at least 18 years old and have a good understanding of their organization's strategy and execution of data, technology, leadership, and general operations.

We received a total of 117 responses, between September to November 2022, from organizations in various sectors and industries across the world. We removed duplicate entries and an erroneous submission, resulting in 114 responses.

An overview of these participating organizations can be found in Appendix A. Respondents were asked to complete more than 40 questions. All questions relating to funding (such as annual budget) were in US dollars (USD). Survey questions and response options can be found in Appendix B.

Below, we present our key findings. Most of the questions required participants to pick one or more options from a set of categories (e.g., types of social media the organization uses). In such cases, we present the percentage of organizations that correspond to each category. Other questions asked participants to respond on a 1 to 5 rating scale to indicate, for example, how much they agreed with a statement. For these questions, we report the percentage of those who selected the top two choices (4 or 5), and contrast this group against those who selected the other options (3 or lower). Details about the statistical analyses and limitations to the survey methodology can be found in Appendix C.

# KEY FINDINGS

KEY FINDINGS

# WORKFORCE AND RESOURCES

## Adopting and integrating technology into an organization's workflow often requires sufficient resources.

Resources include not only finances and equipment, but also the people who introduce, incorporate, and maintain the technology.

A skilled and well-prepared workforce can use technology to enhance productivity, safeguard important and sensitive information, and analyze data to understand trends and tell compelling stories. Yet, there may be challenges and constraints for establishing such a team, including lack of expertise among organizational members and limited budget to hire talent. Even with the right people on board, what they can achieve could be limited by the availability of physical equipment. And there are also no guarantees that their technical skill set will continue to be relevant and meet the demands of future tech work.

In this section, we explore the function and makeup of a tech team within an organization, budget allocation toward technology, and how crucial a workforce is to the successful adoption of technology. For the purposes of this study, "tech team" refers to team members who are dedicated to software engineering, system and network administration, data management, data science and analysis, software and hardware purchases, and cybersecurity.

# MOST ORGANIZATIONS, REGARDLESS OF IN-HOUSE EXPERTISE, **RELIED ON EXTERNAL TECH SUPPORT**

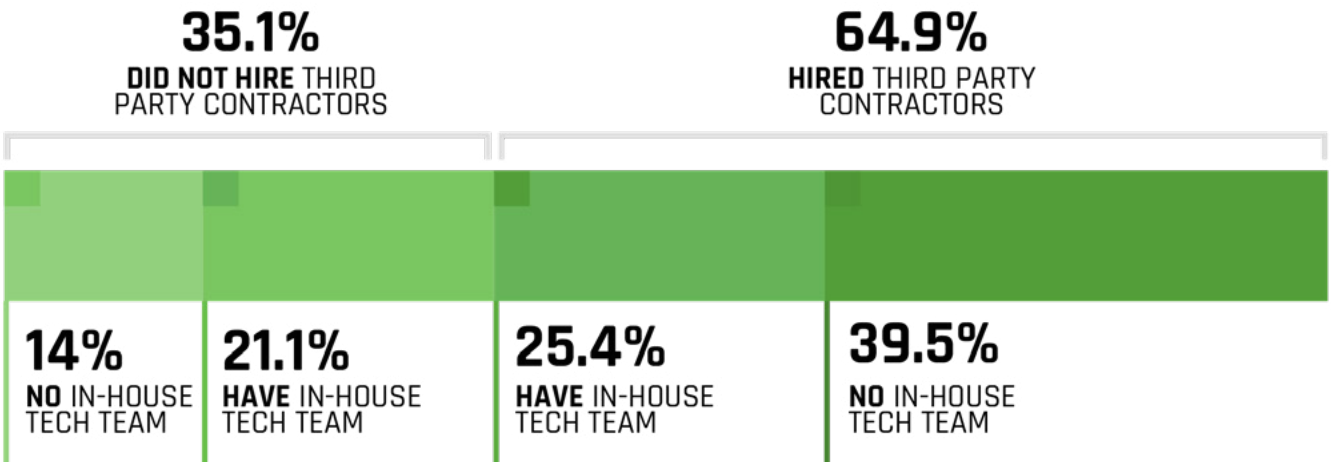



Figure 1

The data presented in Figure 1 displays the proportions of organizations with in-house tech teams versus those without. The percentages are further segmented based on those who received technical support from third-party contractors and those who did not. Regardless of whether organizations had a tech team, many of them (64.9%) relied on and hired third-party contractors for technical support. This indicates the strong need for specialized work across various disciplines required for adopting technology.

Less than half of all organizations (46.5%) had tech teams; among this group, tech team members made up an average of 14.5% of the total workforce. Still, more than half of these organizations relied on additional support and services from third-party contractors. For those without a tech team (53.5% of organizations), the need for external support was even higher: Almost three-quarters (73.8%) hired third-party contractors. Only a small minority (14%) in our study neither had a tech team nor relied on third-party support. Most of these (13 out of 16) were new and fledgling organizations that were established in 2019 or more recently.

Table A, below, compares organizations with and without tech teams.

| MEDIAN | ORGS WITH TECH TEAMS | ORGS WITHOUT TECH TEAMS |
|---|---|---|
| **Annual budget** | $500k-$1M | $100k-$250k |
| **# of FT employees** | 7 | 3 |
| **# of PT employees** | 2 | 1 |
| **# of contractors** | 1 | 1 |
| **# of volunteers** | 10 | 2 |

Table A

## ORGANIZATIONS ALLOCATED **NEARLY ONE-FIFTH OF THEIR BUDGET TO TECH**

How an organization chooses to break down its budget can be an indicator of its priorities and available resources. On average, organizations allocated 18.4% of their annual budget to tech-related expenses: 11.3% on software and hardware purchases, online services, and tools, and 6.9% on salaries or wages for tech employees or contractors.

To identify organizations that spent the most and least on tech, we calculated the top and bottom 25th percentiles of the average annual budget allocated to tech. Organizations that spent the most on tech overall (23% or more of their budget) tended to focus on policy change (36% of organizations). On the other hand, organizations that spent the least on tech (7% or less of their budget) predominantly focused on vegan/vegetarian outreach (40%).

## INCREASED FUNDING ALONE **DOES NOT DIRECTLY LEAD TO PRIORITIZING TECH AND DATA**

Participants were asked to rate the extent to which their organization would prioritize investing in technology and data utilization if the organization's annual budget had doubled. Participants responded on a scale of 1 ("would not be a priority") to 5 ("would be the first priority"). 38.6% of participants reported that investing in tech and data would be a top priority. Participants' average rating for how much tech and data would be a priority was 3.3 out of 5. These results suggest that even if organizations had more money, tech and data might not necessarily be prioritized; thus, it is important to also consider barriers to adopting tech other than funding.

Organizations that have already adopted and benefited from tech might be the ones who would invest further in this area if their budget increased. Specifically, organizations that found that tech and data had improved their efficiency had a higher average rating for prioritizing investment (3.5 out of 5) compared to those who did not think tech and data improved their efficiency (2.7 out of 5). In addition, organizations that were digitally-reliant, had a higher percentage of budget already allocated to tech activities, or had more resources overall were more likely to prioritize investment in tech and data.

# STAFFING AND EXPERTISE WERE CITED AS THE GREATEST CHALLENGES TO ADOPTING TECHNOLOGY

Participants were asked about challenges for adopting technology. The key challenges identified were lack of or shortage of workers (60.5%), insufficient level of expertise (51.8%), and lack of physical equipment (16.7%). 14% of organizations reported other challenges such as lack of funds, lack of time, disagreements within the organization about the use of tech, and not knowing which tech tools are suitable for their needs. Organizations that reported an insufficient workforce as a barrier for adopting tech tended to rely more on volunteers for their work (43.7% of total workforce), compared to those that did not identify this as a barrier (32.6%). Among the organizations that reported insufficient expertise as a barrier, only 37.3% had a tech team, whereas 56.4% of those that did not identify expertise as a barrier had a tech team.

While the majority of organizations (84.9%) believed that their tech team can meet current needs, there was some concern for the future. Slightly fewer respondents (71.7%) believed that the skills and expertise among their current tech team are sufficient for future tasks and projects.

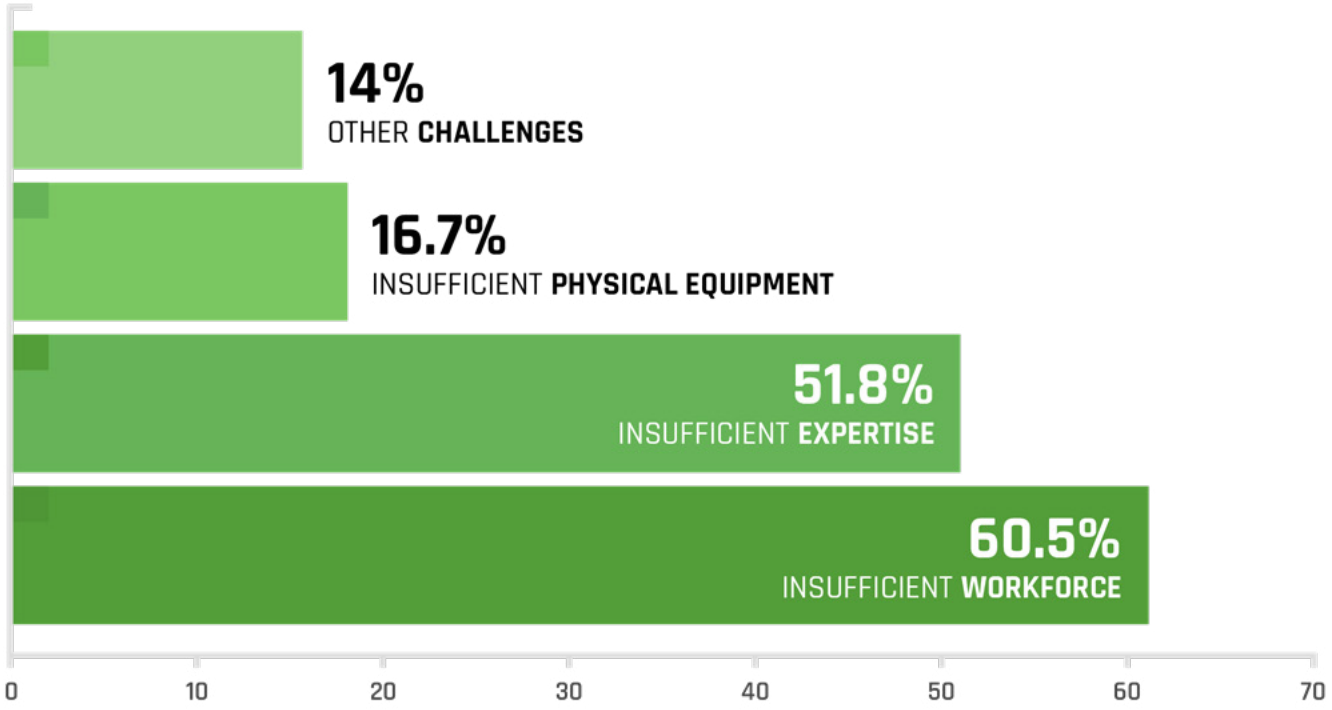



Figure 2

# LIMITED ACCESS TO PHYSICAL EQUIPMENT WAS **MOST PROMINENT IN SUB-SAHARAN AFRICA**

Among the organizations that cited lack of physical equipment as a challenge (19 organizations), 8 operated in Sub-Saharan Africa and 10 had an annual budget lower than $25,000. Meanwhile, among the 95 organizations that did not identify physical equipment as a challenge, the majority (62.1%) were based in North America and the median budget was $250,000 to $500,000 — that is, 10 to 20 times their counterparts.

On average, respondents stated that 93.2% of employees require computers and 64.8% of employees require smartphones to work effectively. Fortunately, most of these needs appear to be met: On average, most employees had access to computers (95.3%) and smartphones (91.3%). Those that had insufficient computer access (4 organizations) and insufficient smartphone access (5 organizations) tended to have lower annual budgets and were mostly located in Sub-Saharan Africa.

**93.2%**

of employees require **computers** to work effectively

**64.8%**

of employees require **smartphones** to work effectively


KEY FINDINGS

# WEBSITES AND APPLICATIONS

**Next, we explore public-facing digital interfaces and tools that can represent or facilitate an organization's work: Websites and applications.**

A well-designed, accessible, and up-to-date website is crucial for sharing information, engaging supporters and donors, and establishing credibility. It is the digital front page of any organization.

Apps, on the other hand, play a significant role in delivering specific services or functionality to users. Whereas a website's main purpose is to provide information, an app can have complex features and advanced user interactions to solve specific problems or provide specialized functionality. Apps can be accessed through a web browser, desktop, or mobile device.

Mobile apps in particular are given special attention in this section because of their unique benefits and potential impact. A mobile app refers to software for smartphones and tablets, and are most commonly built for Android and iOS operating systems. They offer several advantages to reaching an organization's target audience and making advocacy efforts more accessible. In addition to offering users access to its functions and services from anywhere, mobile apps can also offer offline access even when Internet connection is not stable or available. Push notifications also offer real-time updates on important information and events. Given that there are more than 7 billion mobile users worldwide (Taylor, 2023), organizations can gain a significant and engaged user base by harnessing mobile technology.

# MOST ORGANIZATIONS HAD **SUBOPTIMAL WEBSITES**



The overwhelming majority of organizations (94.7%) had a website, which is standard practice for any business or organization today seeking to have an online presence. Only 6 organizations did not have a website, yet all of them planned on building one in the future. These organizations had an annual budget of less than $25,000, of which 4 were based in Sub-Saharan Africa, and their work focused on one or more of the following areas: animal care (3 organizations), humane education (3), open rescue (2), and vegan/vegetarian outreach (2).

**The following findings pertain to the 108 organizations with websites:**

Organizations were **using their website for various purposes:** blogging (70.4%), event registration (41.7%), and webshops (25.9%).

47.2% of organizations reported **updating their website content** at least once a month or multiple times a month. 17.6% of organizations reported updating once a year, once every three years, or less. Of the organizations that infrequently updated their websites, the majority (68.4%) did not have a tech team.

97.2% of participants reported that their **website was mobile-compatible,** but these participants rated the mobile-friendliness of their website as 3.82 out of 5 on average (where 5 is "sufficiently mobile-friendly" and 1 is "could be improved").

Two organizations reported that their **website was not mobile-compatible**, but both expressed an interest in making their websites mobile-compatible in the future.

Only a minority of organizations reported that their **websites are accessible to individuals with disabilities** (24.1% for blindness or visual impairment and 29.6% for audio impairment). 20.4% of all organizations with websites (which is 19.3% of all organizations in our sample) stated their websites are accessible to both groups.

To further elaborate on accessibility, website design practices that prioritize "typical" users often and unintentionally do so at the expense of those with disabilities (Oswal & Meloncon, 2014). Given that there are over 2.2 billion people with vision impairments or blindness (World Health Organization, 2019) and 1.5 billion people worldwide with some level of hearing loss (World Health Organization, 2021), this is a huge impediment for people to fully engage with organizations and be active in the animal protection movement.

There are multiple benefits for making a website accessible, such as fostering trust between organizations and their audience as well as reducing risk of legal liability, which could lead to losing credibility with donors (Isa, 2021). But the overarching reason to make a website inclusive of all users is because everyone, regardless of their background, deserves access to information.

## FREE WEB DESIGN SERVICES WERE IN HIGH DEMAND

Organizations, particularly those with limited resources and a higher proportion of volunteers, were interested in receiving assistance with web design. Participants were asked to indicate how valuable their organization would find a web design service offered by volunteers, on a scale of 1 ("not at all valuable") to 5 ("very valuable"). Over half of organizations (57%) would find such a service valuable. The majority of those who expressed interest in this kind of service (64.6%) had an annual budget of less than $250,000 and did not have their own tech team (58.5%). They also had a workforce that included a high percentage of volunteers (46.6% on average). Organizations, especially those with less resources overall, seem to understand the value of websites and specialized knowledge required for web design.

**57%**

of organizations would find free web design services valuable

**64.6%**

of those organizations have annual budgets of **less than $250,000**

**58.5%**

of those organizations **do not** have their own tech team

**31.5%**

of organizations were considering **building a mobile app** in the future

**47.1%**

of those organizations were focused on **outreach**

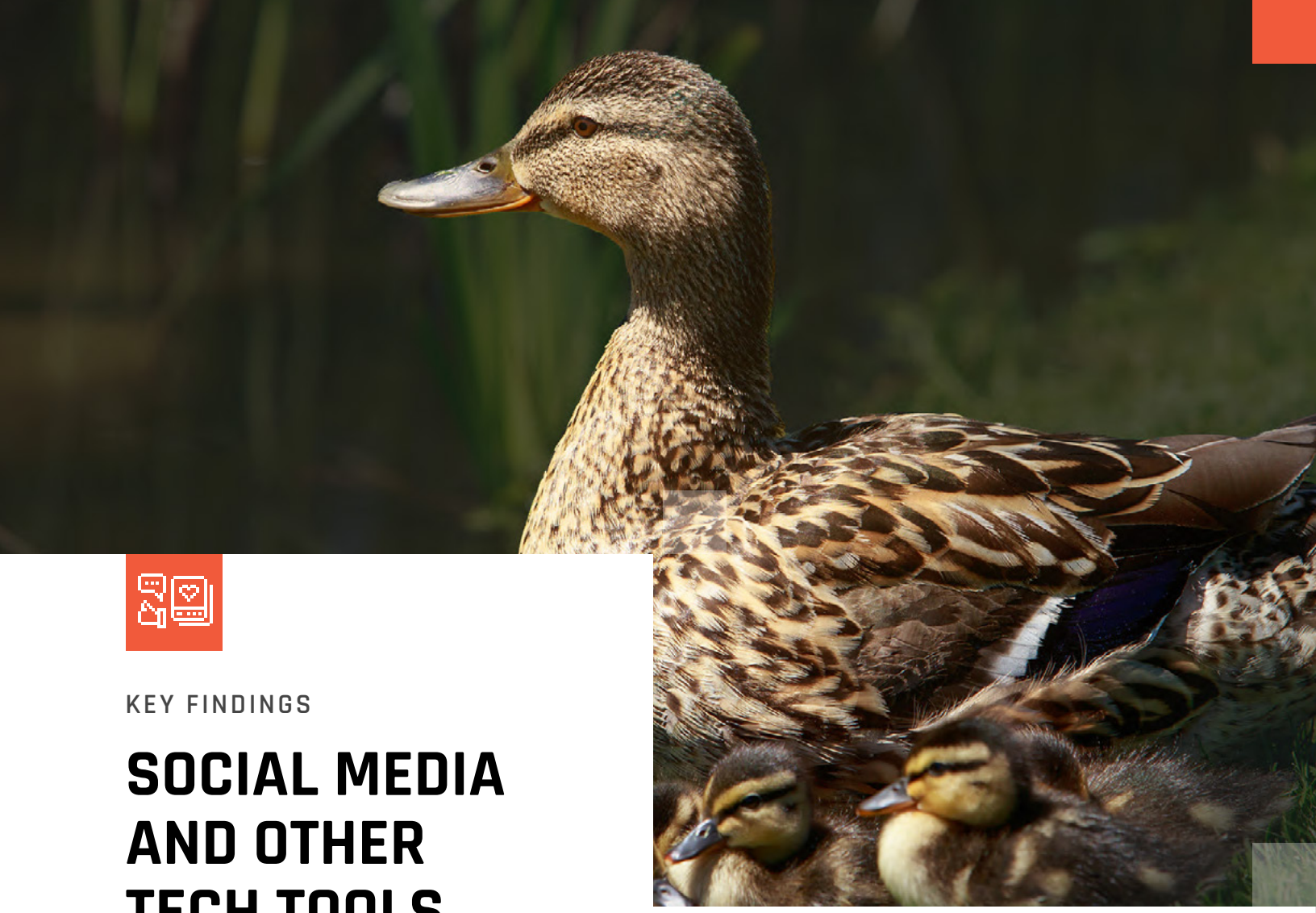
**41.2%**

of those organizations were focused on **policy change**

## **ONE-THIRD OF ORGANIZATIONS** WERE CONSIDERING BUILDING A **MOBILE APP**

Since mobile apps play a role in disseminating information and helping users achieve certain tasks, they can be beneficial in supporting an organization's goals. However, we found that only 6 of the 114 organizations had a mobile application, and out of these, 4 had outsourced its development to contractors.

Although most organizations did not have an app, around one-third of them (31.5%) were considering building an app in the future. Among those interested in having an app, many of them were focused on vegan/vegetarian outreach (47.1%) or policy change work (41.2%). For these organizations, having a mobile app could play a large role in persuading people to take action.



KEY FINDINGS

# SOCIAL MEDIA AND OTHER TECH TOOLS

**In this section, we explore social media and the various software and tech tools used in the everyday operations of organizations.**

Due to its ease of use and minimal overhead, social media in many ways levels the playing field by allowing anyone with a smartphone to amplify their message to their target audience. As such, an organization can promote its brand, elevate campaigns, and increase awareness of issues by broadcasting news in real time and potentially gaining traction through viral content.

Whereas social media enables external communication, other tech tools allow organizations to internally communicate and collaborate, manage workflow, and accomplish goals and tasks. When carefully considered and intentionally employed, having a suite of software that meets an organization's needs can ultimately help boost efficiency and effectiveness.

Furthermore, this section explores practices and attitudes related to the use of tech tools. We inquired respondents about how reliant they perceive their organization to be on a range of tech tools, as well as the extent to which they believed tech tools have made their work more efficient. We also asked whether having access to volunteers to support tech-related work would be beneficial. In doing so, we aim to capture a snapshot of the specific demand for certain tech tools and the services that would lend itself to fully leveraging technology.

# SOCIAL MEDIA WAS THE MOST WIDELY USED TECH TOOL

Across the board, all organizations require some form of technology to conduct their work. As depicted in Figure 3, of the types of tools used by organizations in our study, the most widely used technology tool was social media (93.9%), followed by email marketing (81.6%), financial technology (57.0%), cloud computing (56.1%), data analysis (48.2%), and automation (40.4%). Organizations with in-house tech teams tended to make greater use of a variety of tools, such as ones for finance, data analysis, and automation.

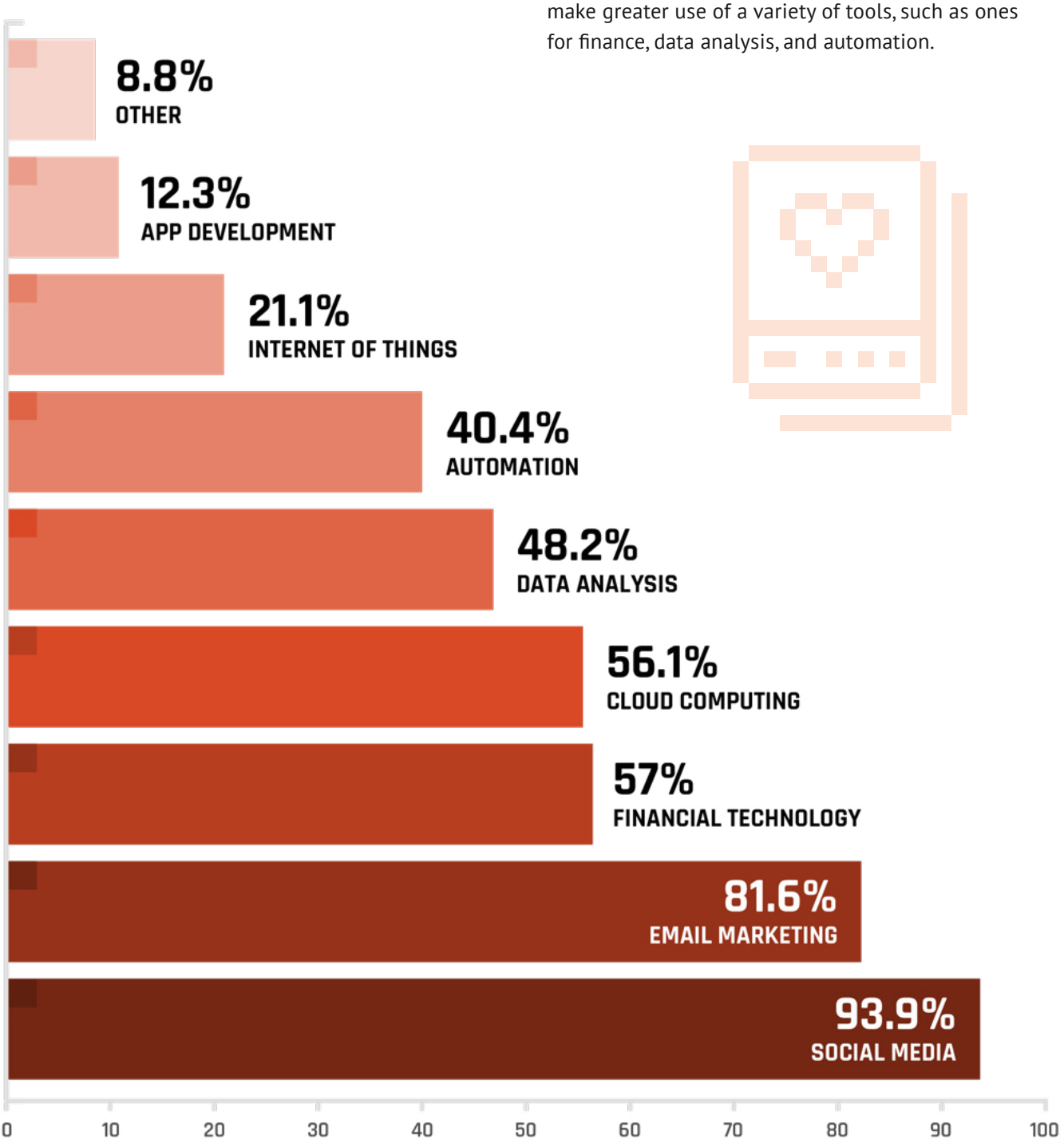



Figure 3

## FACEBOOK AND INSTAGRAM WERE THE MOST POPULAR SOCIAL MEDIA PLATFORMS

Of the 107 organizations that reported using social media, 82.2% of them had some personnel dedicated to managing social media, whether in a salaried, contractual, or volunteer capacity. Organizations that reported social media to be essential for their external communication strategy (80.4%) tended to work in policy change (40.7%) and vegan/vegetarian outreach (39.5%). Among the organizations that did not see social media as essential to external communication (21 organizations), half of them focused on research and program evaluations.

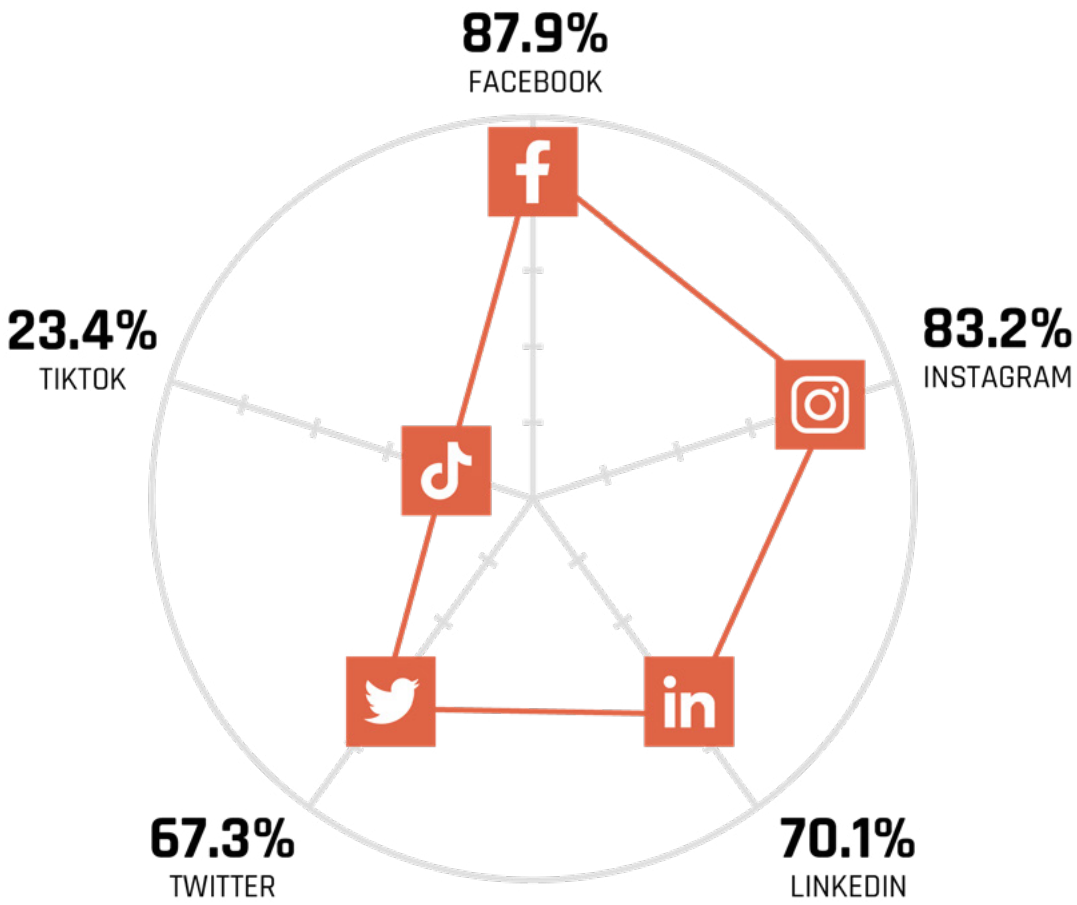



Figure 4

Among the organizations that used social media, Facebook was the most actively used platform (87.9%, with an average of 142,245 followers), followed by Instagram (83.2%, 47,858 followers), LinkedIn (70.1%, 4,054 followers), and Twitter (67.3%, 29,097 followers). Only 25 organizations used TikTok, and they had an average of 2,832 followers; among these organizations, vegan/vegetarian outreach (48%) and policy change (40%) were the most common areas of focus. In terms of ranked importance of the platforms, with 1 representing the most important and 5 the least, Instagram received the highest average ranking (1.7), followed by Facebook (2.1), Linkedin (2.9), Twitter (3), and TikTok (3.7).

# TECHNOLOGY IS PRIMARILY USED FOR **INTERNAL AND EXTERNAL COMMUNICATION**

We asked participants to rate how much their organization relies on software to perform a variety of tasks, on a 1 ("not at all") to 5 ("to a great extent") scale. These tasks included internal communication, external communication (with target audience, donors, and other organizations or businesses), task management, accounting, and security. Organizations relied on software and tech tools the most for internal communication (average rating of 4.6) and the least for security (average rating of 3.7).

Among the 106 organizations that used tech tools for internal communication, email was the most widely used (95.3%). Internal communication platforms (e.g., Slack and Discord) were also popular (68.9%), followed by virtual meeting software (67.9%). The least commonly used internal communication tools were bulletin board software (0.9%), all-in-one employee apps (4.7%), and intranet (10.4%).

111 organizations reported using tech tools for external communication, and email was again a widely used tool (91%). Social media (88.3%) and virtual meeting software (80.2%) (e.g., Zoom, Whereby, and Lifesize) were also commonly used to facilitate external communication. Email marketing software (e.g., Mailchimp, Sendinblue, and Campaign Monitor) was also a popular external communication tool (73%). Other tools such as chatbots, live chats, service desk software, and knowledge-based software for organizing and sharing information, were rarely used (less than 10%).

Among the 90 organizations that reported using a task management tool, Asana was the most popular (42.2%), followed by Trello (25.6%).

# WELL-RESOURCED ORGANIZATIONS **RELIED MORE HEAVILY ON TECH TOOLS**

In the previous section, we highlighted the types of tools that the organizations were using. To see how much the organizations relied on software and tech tools overall, we created an average score across all the tasks for each organization. The average overall score in our study was 4.2 out of 5. Organizations without a tech team were less reliant on software and tech tools (average score of 3.9) than organizations with a tech team (average score of 4.5).

How much an organization relied on software and tech tools was also related to their primary focus and activities. For example, organizations that focused on open rescue and investigation (e.g. of slaughter-houses) had the highest overall scores (4.66 and 4.57 respectively). On the other hand, organizations that focused on lobbying had the lowest score (4.16).

There are also expected patterns that correspond with privilege and access to resources: organizations with higher annual budgets had a higher score, and organizations operating in Western Europe (4.3) and North America (4.3) had the highest scores. Those operating in Sub-Saharan Africa (4.15), East Asia (4.13), and Eastern Europe (4.12) had the lowest average scores, which suggests that they were less reliant on technology.

# ORGANIZATIONS AGREED THAT **TECH TOOLS ENABLE THEM TO BE EFFICIENT**

Participants were also asked to rate the extent to which tech tools have made their organization's work more efficient, on a scale of 1 ("did not make the organization's work more efficient") to 5 ("made the organization's work more efficient to a great extent"). As shown in Figure 5, the majority reported that the organization's efficiency improved, giving a rating of 4 or 5 out of 5 (82.5%). Organizations that reported that their efficiency improved with tech tools also tended to rely on tech tools to a greater extent (see p. 18 for the average tech tool reliance score). Specifically, organizations that reported an improved efficiency were highly reliant on tech tools overall (average score of 4.3 out of 5), whereas those that did not find that efficiency improved with tech (3 or lower out of 5) were not very reliant on tech (average score of 3.6 out of 5).

**To what extent do you think utilizing tech tools has made your organization's work more efficient?**

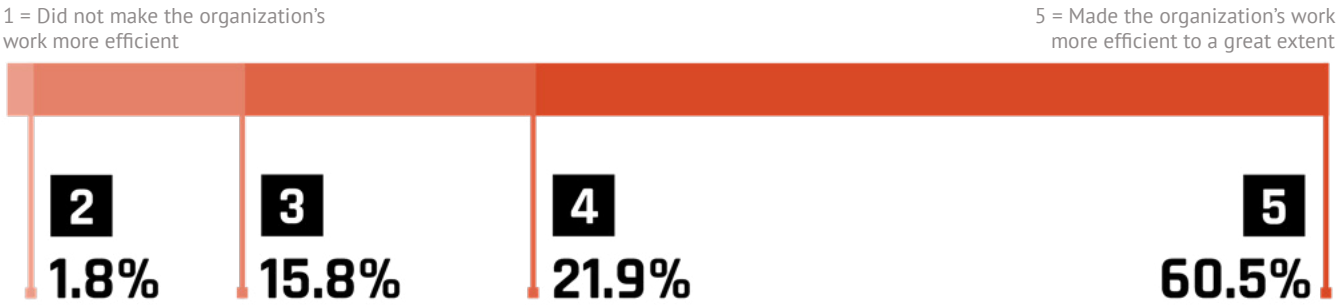



Figure 5

We also asked the respondents to rate the extent to which using additional tech tools has the potential to enhance the organization's efficiency, on a scale of 1 ("would not make the organization's work more efficient") to 5 ("would definitely make the organization's work more efficient"). As seen in Figure 6, the majority agreed that additional tools would enhance their efficiency (71.9% selecting 4 or 5 out of 5). Moreover, among the organizations that found tech tools to have improved their efficiency (having rated their organization's efficiency as 4 or 5 out of 5), 76.6% also believed that adopting more tech tools would further improve their efficiency.

**To what extent do you think utilizing additional tech tools has the potential to make your organization's work more efficient?**

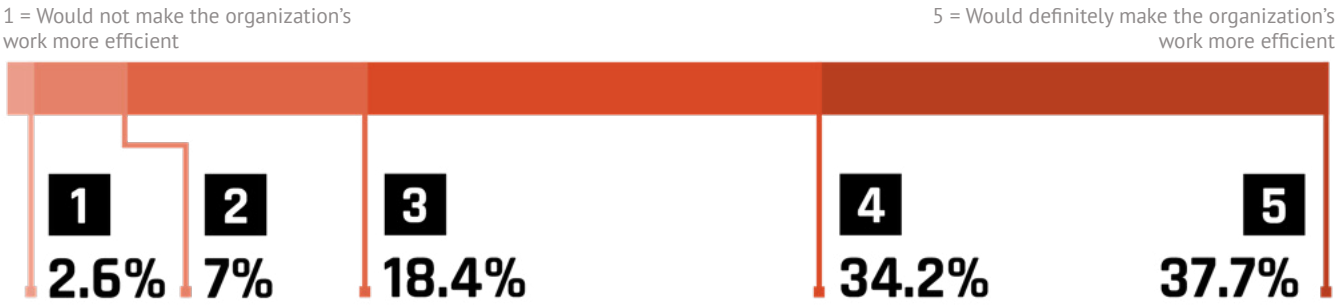



Figure 6

**How valuable would you find a service that would connect you with volunteers willing to help you with tech-related work?**

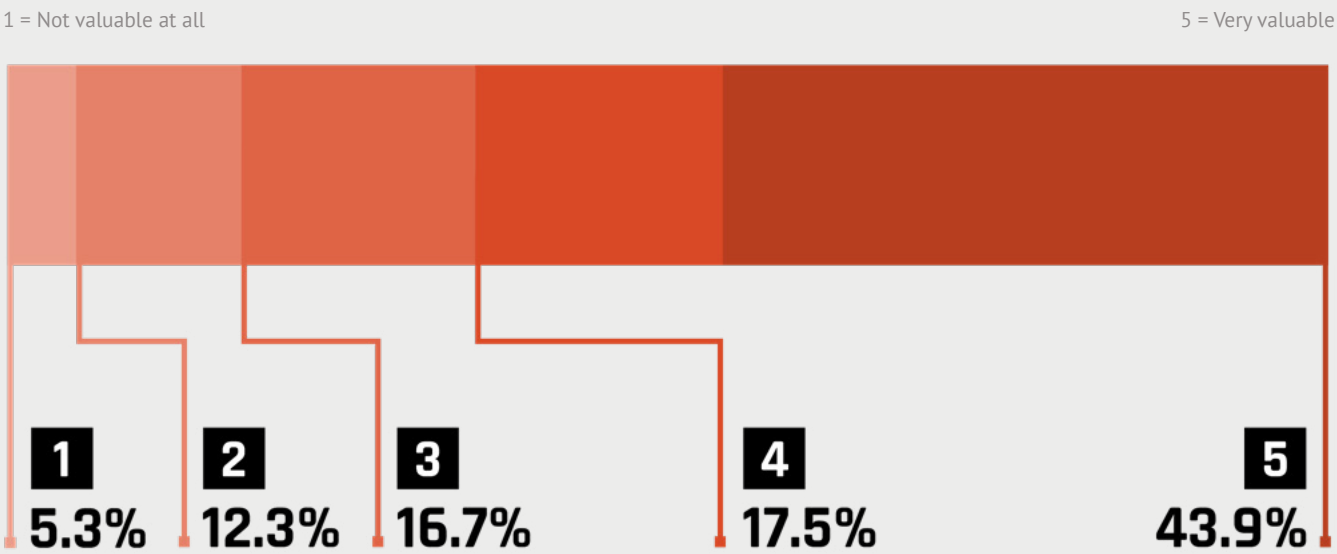



Figure 7

# ORGANIZATIONS WITH **SMALLER BUDGETS** WOULD FIND **TECH VOLUNTEERS HELPFUL**

We asked organizations if they would find it valuable to connect with volunteers who could help them with tech-related work (see Figure 7). 64.9% of the organizations reported that such a service would be valuable, meaning that they selected 4 or 5 on a scale of 1 ("not valuable at all") to 5 ("very valuable").

Organizations with smaller budgets were more likely to find such a service to be valuable. 84.8% of the organizations with an annual budget lower than $250,000 said they would find it valuable, compared to only 50% of organizations with a higher annual budget. We also found that organizations without a tech team were more likely to find such a service to be valuable.

KEY FINDINGS

# DATA COLLECTION AND ANALYSIS

**Meaningful data can provide valuable insights and tell a compelling story. It is important to first identify meaningful metrics that are closely tied to the organization's mission.**

And by collecting, storing, and analyzing data, organizations can gain a wealth of knowledge about the effectiveness of their services, the efficiency of their operations, or the demographics of their target audience. Doing so allows organizations to have an intentional, cost-savings approach: they can generate new solutions, pinpoint what works, and pivot if their approach is not working. They can also measure and convey the impact of their interventions to funders and stakeholders.

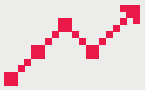
Beyond the organizational level, data-informed decision-making can help the animal protection movement direct resources and efforts where they are most needed and optimize strategies for maximum impact. If done successfully, the use of data to inform actions will help build stronger partnerships, gain public trust, and mobilize support from stakeholders and the community at large. Ultimately, a data-driven movement will help organizations make well-informed, decisions that lead to more effective and compassionate initiatives.

# THE MAJORITY OF ORGANIZATIONS **COLLECT AND ANALYZE DATA**

The vast majority of organizations (93%) reported collecting or storing data. Most of these organizations (95.3%) reported storing their data in online databases, spreadsheets (online or local computer), or both. Only two organizations stored data in warehouses or data lakes; a data lake is a central location that holds large amounts of data in its native, raw format and can be used for data analytics, business intelligence, and machine learning.

85.9% of organizations that collected or stored data also analyzed them. For organizations that do not conduct any data analysis (15 organizations), more than half of them (53.3%) stated that they would find free data analysis service valuable. The organizations that expressed interest in such services focused primarily on humane education or policy change, had an annual budget lower than $250,000, and most of them did not have a tech team.





**93%**

of organizations reported collecting or storing data

**95.3%**

of those organizations stored their data in **online databases, spreadsheets, or both**

**85.9%**

of those organizations **analyzed the data** that they collected

# COLLECTED DATA WAS **USED PRIMARILY TO DESCRIBE WHAT HAPPENED**

Data analyses can fulfill a range of objectives. Participants from organizations that analyzed their data (91 organizations) were presented with a list of objectives and were asked to indicate the extent to which they agree that their organization conducted data analysis for each objective (on a scale of 1 for "Strongly disagree" to 5 for "Strongly agree"). On this page, we present these objectives, from most common to least common. For each objective, we provide an example of tracking user data on a website to illustrate how data might be analyzed to achieve the objective.



*Example scenario: Tracking user data on a website*

## 87.9%

**Describing or understanding what happened**

*Which website pages were viewed by a user*

## 79.1%

**Diagnosing or understanding why an event happened**

*Why a user did not complete a transaction or expected journey on the website*

## 78%

**Innovating or understanding what the organization can do**

*Optimizing website features*

## 63.7%

**Prescribing or understanding how the organization can make it happen**

*Ensure that users go through the website in a desirable manner*

## 62.6%

**Predicting or understanding what will happen**

*Anticipate the most likely course of action that users will take*

To understand the types of organizations that analyzed data for a range of objectives, an index was created for each organization by averaging the ratings across objectives. The average index score in our sample was 4 out of 5. Those that had their own tech team scored 4.1 while those that did not scored 3.9. Organizations that focused on protests (both non-disruptive or disruptive) analyzed their data extensively across various objectives (score of 4.27), whereas those that focused on legal advice or assistance analyzed their data to a lesser extent (score of 3.5).

## **NOT ALL** ORGANIZATIONS WERE **CONFIDENT IN THEIR DATA ANALYSIS CAPABILITIES**

Among the 91 organizations that analyzed their data, only 58.2% agreed that current personnel working on data analysis have sufficient expertise to effectively fulfill their current set of tasks. Organizations that reported sufficient expertise had higher budgets, larger workforces, and in-house tech teams, whereas those that reported insufficient expertise had lower budgets, smaller workforces, and did not have in-house tech teams.

| | **SUFFICIENT** DATA ANALYSIS EXPERTISE | **INSUFFICIENT** DATA ANALYSIS EXPERTISE |
|---|---|---|
| **Median annual budget** | $250k-$500k | $100k-$250k |
| **Median # of workforce** | 21 | 14.5 |
| **In-house tech team** | Yes | No |

Table B

When asked about whether the organization's current team could execute on future tasks, approximately half of the organizations exhibited confidence in their workforce (having selected "somewhat agree" or "strongly agree") (53.8%). Organizations' current levels of confidence in their team's analytical skills also shaped how they viewed the future. 88.7% of organizations that agreed that the expertise level is presently sufficient also agreed that it is sufficient for future tasks. The optimism of these organizations is quite surprising, given that future demands for data analysis could change drastically.

KEY FINDINGS

# SECURITY MEASURES

**As organizations work diligently toward their missions, an often-overlooked aspect of operations is the safety and security of sensitive information.**

Security should be considered at every level, but especially in the digital realm where there is a plethora of information that could be leaked and exploited. It may also be particularly challenging to discern trustworthy and credible sources online.

While it is vital to enforce security practices for team members who work primarily in tech and data, there are also everyday instances in which staff members and volunteers are required to handle sensitive data, including donor information, financial records, or personnel information. As such, the scope of this section focuses on digital security practices among employees, regardless of their roles, and is therefore applicable to the whole organization.

Implementing robust security measures is crucial to safeguarding information from unauthorized access, breaches, or misuse. A security breach can not only be detrimental to individuals, but also compromise the organization's reputation and may result in legal liabilities and financial losses. Security breaches can also compromise covert operations (e.g., filming or photographing slaughterhouses), rendering the protection of data and lines of communication even more important.

# A MINORITY OF ORGANIZATIONS HAVE FACED **ACCOUNT AND DATA LOSS**

When inquiring participants about compromises to digital security, only a few organizations reported incidents of namely cyberattacks, loss of accounts, and loss of data. However, given that these are preventable with some awareness and proactive action, organizations could improve their current security system.

10.5% of organizations reported that their security was compromised by cyberattacks, such as hacking or phishing (the fraudulent practice of sending emails or other messages to solicit personal or confidential information). The average reported number of cyberattack incidents was 1.5. One organization even lost access to its accounts due to a cyberattack, underscoring the severity of the issue.

Password management remains a challenge, as 13.2% of organizations reported losing access to their accounts due to forgotten or lost passwords. This highlights the importance of implementing secure password practices and considering password recovery options to reduce the risk of such incidents.

While 81.1% of organizations reported backing up their data, 26.7% of them acknowledged the need for additional backup measures. Nearly one-fifth of organizations (18%) admitted to not doing any data backups. Not having regular or frequent data snapshots leaves organizations vulnerable in the event of cyberattacks or hardware failures.

Furthermore, 17% of organizations reported experiencing some form of data loss. Depending on the severity of these incidents, such experiences could potentially lead to adverse consequences such as operational disruptions, financial losses, and compromised trust with stakeholders.

**10.5%**

of organizations reported that **their security was compromised by cyberattacks**

**13.2%**

of organizations reported **losing access to their accounts** due to forgotten or lost passwords

**81.1%**

of organizations reported **backing up their data**

**17%**

of organizations reported some form of **data loss**

# ON THE WHOLE, MANY ORGANIZATIONS **EXERCISED SUFFICIENT PASSWORD PROTECTION MEASURES**

We asked participants to indicate which security measures were used by their organizations for password safety. These measures included:

- **Multi-factor authentication (MFA)**, which requires users to provide multiple forms of identification before giving access to accounts.
- **Password management software** (e.g., LastPass, Dashlane, Bitwarden, and 1Password), which securely stores passwords and generates strong and unique ones for each account.
- **Password encryption**, which stores passwords in a secure, unreadable format, making it difficult for attackers to decipher sensitive information.

As shown in Figure 8, 60.5% of organizations implemented MFA, 53.5% used a password management tool, 28.1% defined and enforced password-updating policies periodically, and 21.9% implemented password encryption. About one-third (32.5%) of organizations used only one of the above security measures, a quarter (26.3%) used at least 2 measures, and a quarter (24.5%) used 3 or 4 measures. 14 organizations (12.3%) did not implement any of these security measures.

**Adoption of Security Measures**

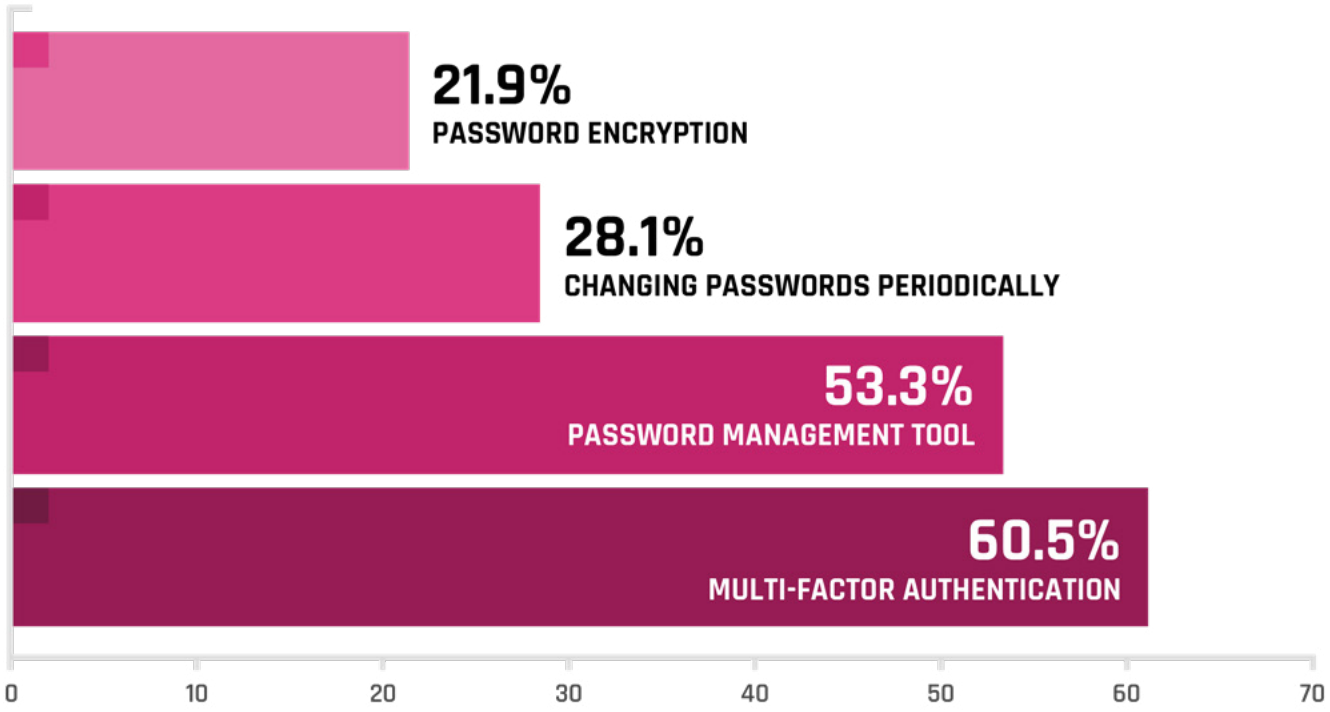



Figure 8

# RECOMMENDATIONS

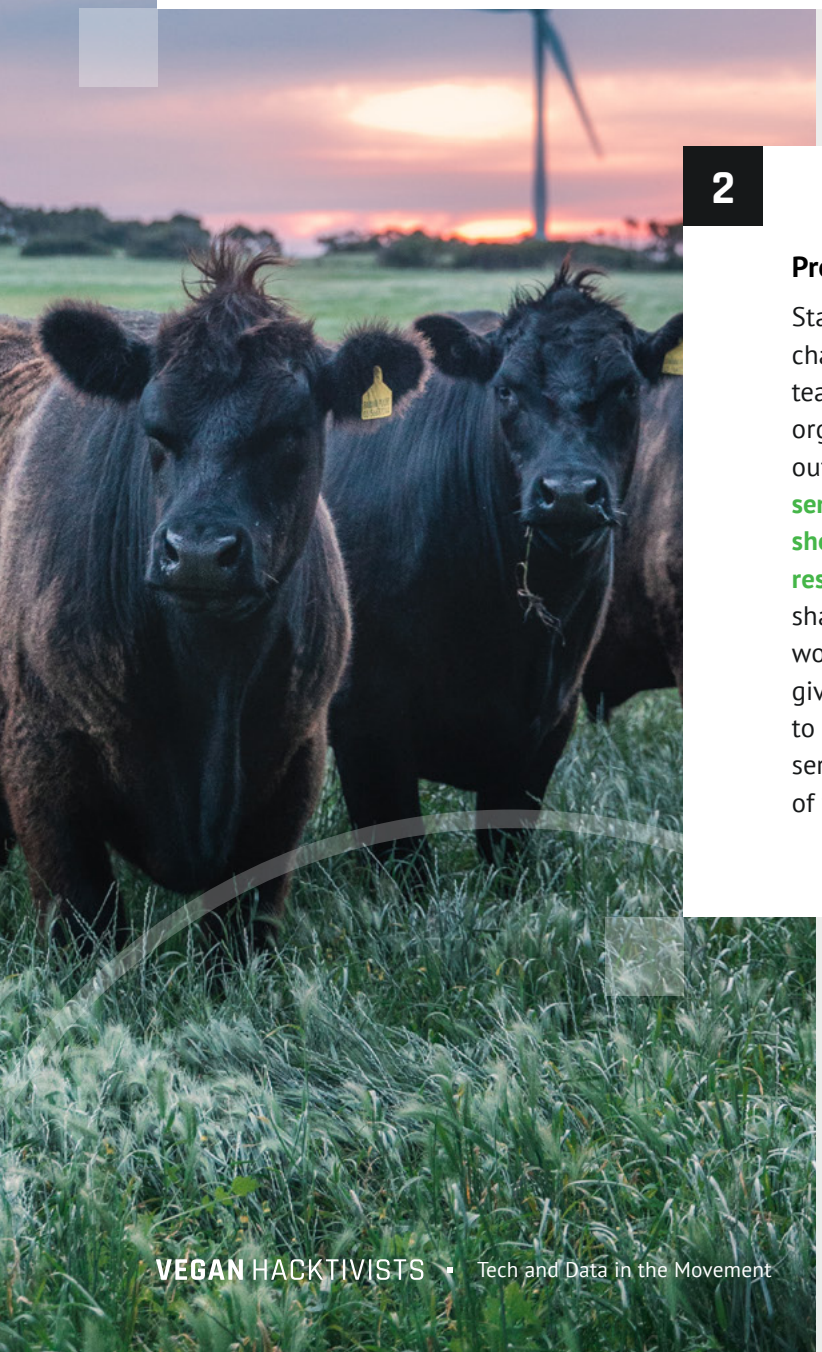
Our study shows that whether organizations in the animal protection movement implement and prioritize technology and data is affected by a host of factors, such as budget and staffing constraints, limited technical expertise, and unclear impact of technology in supporting organizational goals. By recognizing the diversity of organizations involved with animal protection (see Appendix A), we gain a clearer and more nuanced picture of their resources, capacity, and expertise related to tech.

What we've been able to determine through our analysis is that there is no one-size-fits-all model, but that there are unique needs for organizations across the board. Below, we outline some high-level recommendations that reflect the current state of the animal protection movement and the work ahead to leverage technology for the benefit of animals everywhere. Although these recommendations are meant to be relevant for the movement as a whole, we recognize that they may not be applicable to many organizations, given that there may be other barriers to implementing tech and data that we did not capture in our study.

1

### Support Organizations with Limited Resources

More established, well-resourced organizations in North America and Western Europe are more likely to leverage technology to operate more efficiently, rely more heavily on technology, and are more willing to invest in tech and data. **To level the playing field, donors and funders should prioritize supporting organizations with limited resources to alleviate some of the barriers to leveraging tech and data.** We recommend prioritizing organizations that lack access to basic equipment, have small budgets, rely heavily on volunteers, or operate in Sub-Saharan Africa. Since funding alone is not enough for organizations to adopt technology, funds should also be directed to building tech and data-related skills to help fill gaps in expertise. This could be accomplished through training, skill-development resources, and expert assistance to better support and educate staff members and volunteers.



2

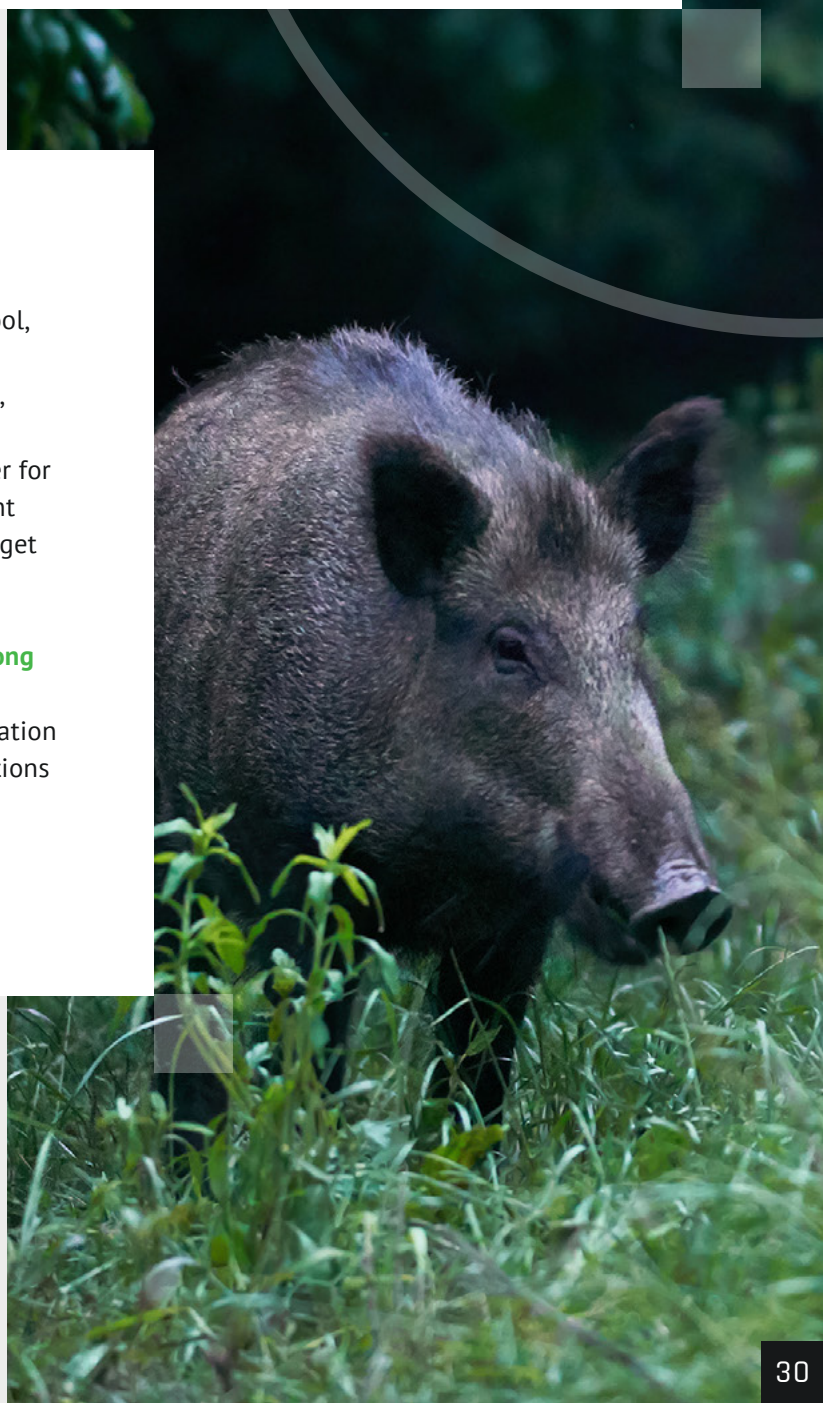
### Provide Access to Free Tech-Related Services

Staffing and expertise have been cited as top challenges to using tech. Yet, hiring internal tech teams can be expensive and out of reach for smaller organizations, and many organizations already outsource tech support services. **Free tech-related services, including website design and data analysis, should be offered to organizations with limited resources.** These services are opportunities to share and advise on best practices through group workshops and individual consulting. Likewise, given that many existing websites are not accessible to users with visual and hearing impairments, these services can also focus on improving the accessibility of websites and mobile applications.

3

### Prioritize the Mobile (Web) Experience

A mobile-first approach is the gold standard in the tech industry. After all, the number of mobile users is high and growing, and mobile technology offers many advantages when it comes to reaching an organization's target audience. **Given the increasing use of mobile devices, organizations should strengthen their presence and reach by building mobile-compatible websites and mobile applications.** Website experiences on mobile devices should be prioritized, with relevant information being readily available and accessible. Since mobile development is highly specialized and not prevalent in the movement, organizations interested in building a mobile app should be connected with mobile developers and be educated on how to get started, such as conducting market research, scoping a project, and defining the user experience.



4

### Expand Strategy for Social Media

Social media was the most widely used tech tool, with Instagram and Facebook being the most popular social media platforms. In our findings, very few organizations actually used TikTok or viewed it as an important platform. Yet, in order for organizations to make an impact, it is important to consider younger audiences among their target demographics. **Organizations should consider expanding their reach by using social media platforms, such as TikTok, that are popular among younger audiences.** By having a presence on a wider range of platforms, as well as communication channels such as Discord and Reddit, organizations are more likely to increase brand awareness, gain traction with projects and campaigns, and recruit volunteers.

5

### Educate on Best Practices for Security

On the whole, the majority of organizations in our study have not experienced significant compromises to their security and many exercised measures when it came to password storage and security. However, this is an area that is still deserving of attention because of the negative consequences of breaches and organizations could do more to enhance their security. **Effective and low-cost measures to secure data and accounts should be shared with organizations, so that the movement is well-protected from malicious actors.** This could take the form of webinars, workshops, or individual consultations that convey the importance of digital security and provide actionable next steps for preventing cyberattacks, managing passwords, and protecting sensitive data.

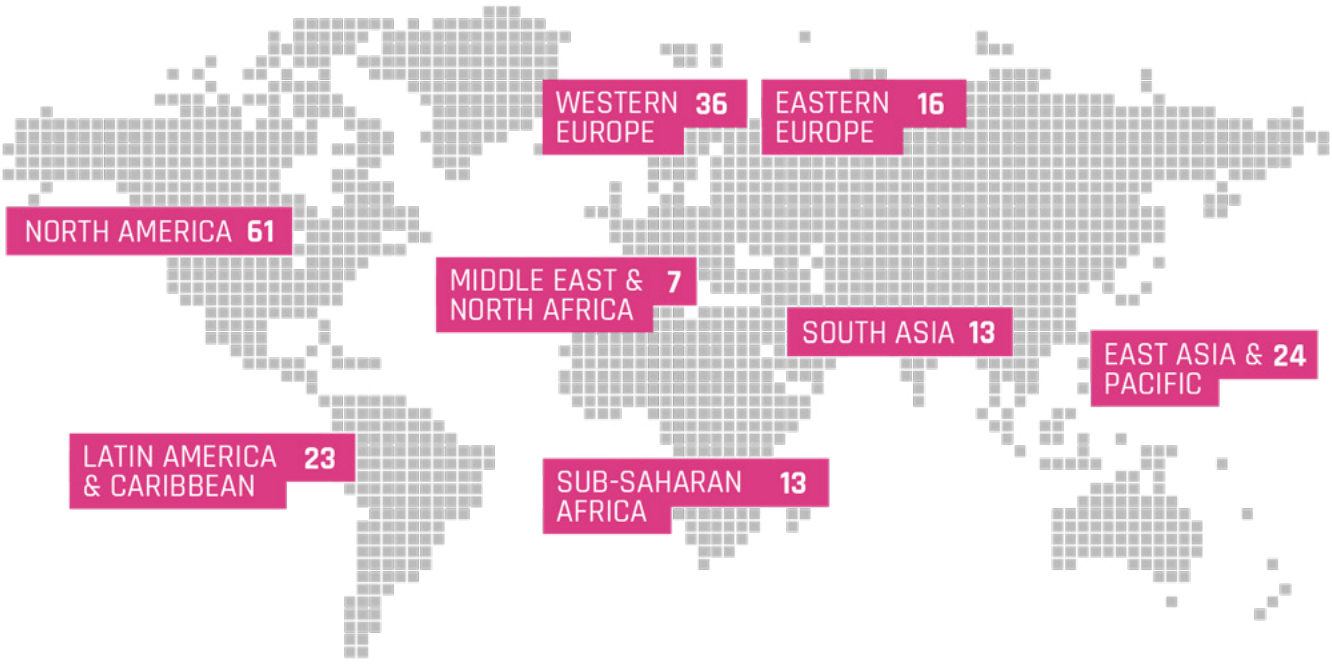
# CONCLUSION

**It is our hope that this research provides invaluable insights to the current state of technology and data usage within the animal protection movement.**

By analyzing the survey data of an upward of 100 groups worldwide, we identified several key challenges, such as disparities between organizations based on regions and amount of resources, lack of accessibility and mobile-friendliness of websites, insufficient expertise in data analysis, and threats to cybersecurity. To address those issues, we recommend actions for various stakeholders, such as providing funding, training, and free services to organizations, particularly those with limited resources or expertise. We encourage advocates, organizations, and businesses to explore and adopt the recommendations outlined in this report; even kick-starting the conversation of what it means to have a tech-forward and data-driven movement is a good step in the right direction. In doing so, we can help the movement leverage technology and data to create a positive impact in the fight for animals. This study is only the beginning. We hope that future studies will further explore the intersection of technology and animal protection to shed light on challenges and opportunities within the movement.

## Appendix A. Overview of Respondents

The study consisted of 114 organizations. Most of them (66.7%) operated in only one country. As shown in Graphic A1, many organizations in the study operated in North America and Western Europe.




GRAPHIC A1

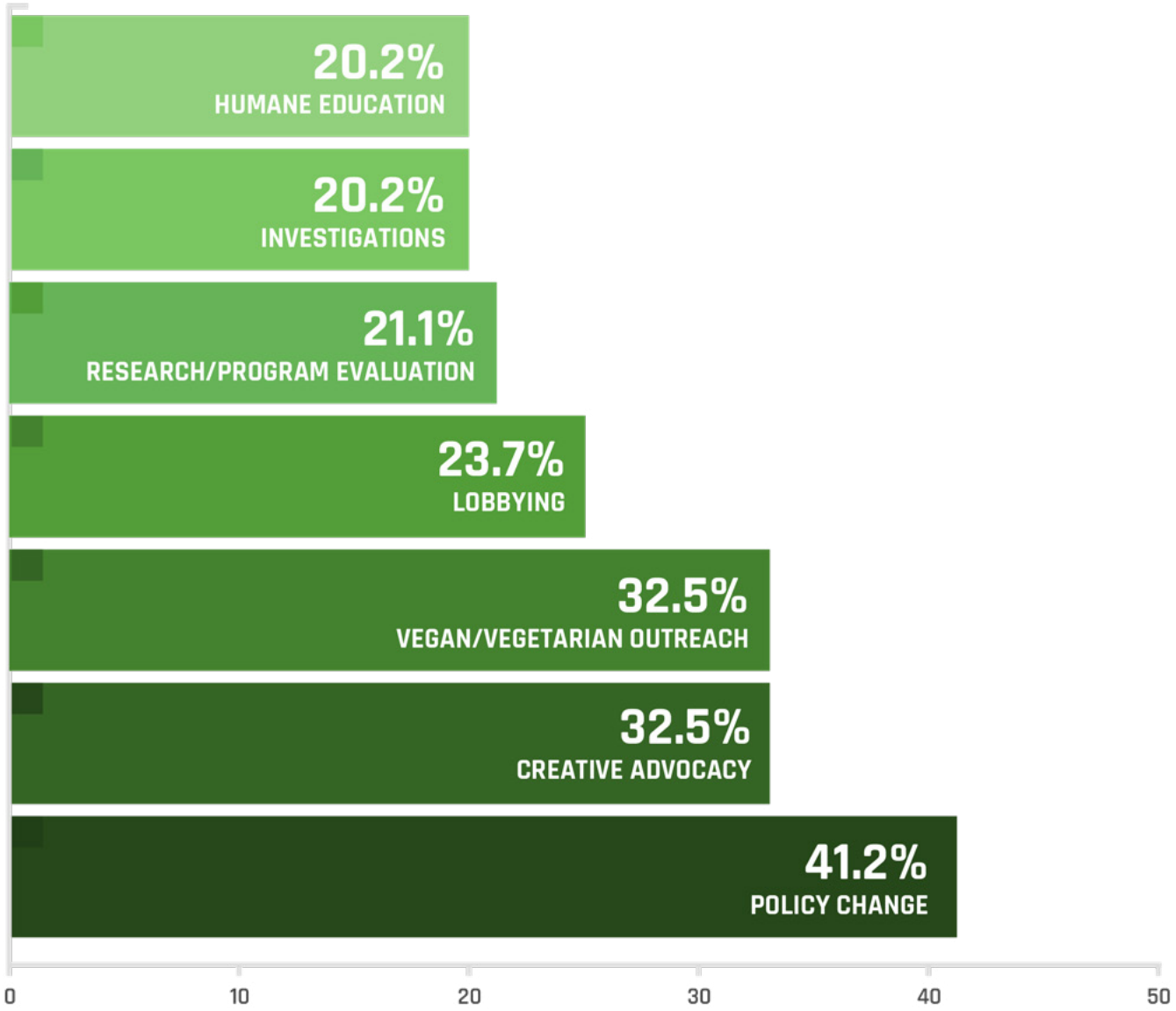
**47.4%**

of organizations were **based or headquartered in the US**

**69.3%**

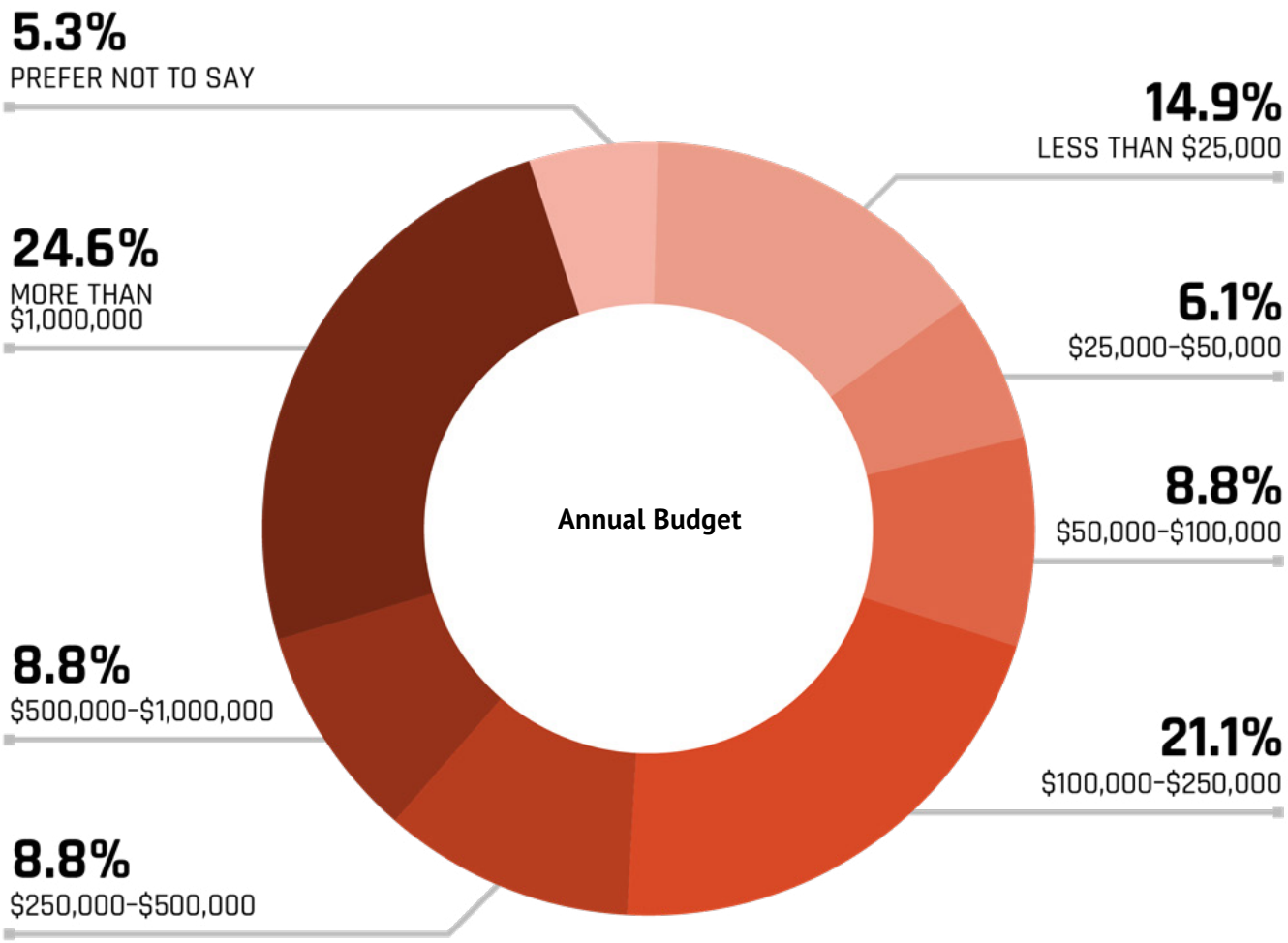
of organizations have been **established in the last decade**

Respondents were asked to indicate up to three primary activities of their organization. As shown in Graphic A2, organizations conducted various works, including policy change, creative advocacy, vegan/vegetarian outreach, lobbying, research studies/program evaluations, investigations (e.g., of slaughterhouses), and humane education.




GRAPHIC A2

Organizations had a wide range of annual budgets (see Graphic A3), with 14.9% having a budget of less than $25,000 and 24.6% having more than $1,000,000.




GRAPHIC A3

The median number of workers in an organization (including full-time employees, part-time employees, contractual workers, and volunteers) was 17.5. The median number of full-time employees was 4, part-time employees was 2, contractual workers was 1, and volunteers was 4. Organizations had a team-based organizational structure (29.8%), a hierarchical structure (29%), or a horizontal or flat structure (16.7%).

## Appendix B. Survey Questions and Response Options

The questions in the survey and response options (if any) are shown below. Some response options have been condensed to save space. Some questions were only shown if they were applicable to the organization; for example, organizations that did not have a website were not asked how frequently they updated their website. For readability, we omitted such contingencies, and added section titles that were not included in the actual survey.

### Organization's history and operations

What is the name of your organization?

Where is your organization based or headquartered? [Select from a list of countries]

In how many countries does your organization operate?

In which regions does your organization operate?

- East Asia and Pacific
- Eastern Europe and Central Asia
- Western Europe
- Latin America and Caribbean
- Middle East and North Africa
- North America
- South Asia
- Sub-Saharan Africa

In which year was your organization established?

What is the main purpose of the organization you are working with? Please select the top 1-3 activities.

- Animal care (feeding, housing, vet care, spay/neuter, etc.)
- Open rescue (live animals)
- Investigations (slaughterhouse, etc.)
- Vigils or non-disruptive protests
- Disruptive protests or demonstrations
- Vegetarian/vegan outreach (leafleting, challenge sign-ups, pay-per-view video, etc.)
- Policy change work (making phone calls, creating letter campaigns, signature gathering, etc.)
- Online discussion, analysis, etc. (Live broadcasted discussions, etc.)
- Humane education (classroom, sanctuary tours, etc.)
- Food Innovation
- Creative advocacy work (web design, programming, photo/video creation, writing op-eds, social media, etc.)
- Legal advice or assistance
- Lobbying
- Research studies, program evaluations, etc.
- Food Innovation
- Health-related/plant-based efforts
- Food Access (plant-based meal delivery)
- Other (please specify)

Under which of the following categories would your organization fall? Please select all that apply.

- Community-based organization
- Voluntary association
- Grassroots organization
- Advocacy group
- Civic and political organization
- Other (Please Specify)

### Workforce, team composition, and resources

How many full-time employees work at your organization?

How many part-time employees work at your organization?

How many contractual employees work at your organization?

How many volunteers work at your organization?

What is the annual budget of your organization?

- Less than $25,000
- $25,000 - $50,000
- $50,000 - $100,000
- $100,000 - $250,000
- $250,000 - $500,000
- $500,000 - $1,000,000
- More than $1,000,000
- Prefer not to say

Which of the following best describes your organization's operational structure?

- Hierarchical Structure (employees are grouped with every employee having one clear supervisor. )
- Matrix Structure (people with similar skills are pooled for work assignments, there is more than one manager to report to)
- Horizontal/Flat Structure (decision-making power is shared, and employees are held accountable for their decisions)
- Network Structure (temporary or permanent arrangement of otherwise independent organizations or associates, forming an alliance to produce a product or service by sharing costs and core competencies )
- Divisional Structure (employees are segmented based on products or services, as opposed to their job roles)
- Line Organizational Structure (the line of command is carried out from top to bottom)
- Team-based Organizational Structure (employees are grouped in teams, and the members work towards a common goal while working on their individual tasks)
- Other: Please Specify

Please specify the approximate percentage of your organization's workforce belonging to the following age categories:

- 18-25 years old
- 26-41 years old
- 42-57 years old
- 58-67 years old
- 68 and above

**Tech team**

Please select the statement best fitting for the current state of your organization. Technology teams consist of employees (full-time/part-time/contractual) and/or volunteers who handle a variety of issues, including cybersecurity, software and hardware purchases, proprietary software development, providing technical assistance across the organization, and more.

- Our organization has a tech team, and all tech-related issues are handled exclusively by our team.
- Our organization has a tech team, but we also contact third parties for additional support.
- Our organization doesn't have a tech team, we only contact third parties when necessary.
- We neither have a tech team nor contact third parties.

How many employees (full-time and/or part-time and/or contractual) or volunteers does your organization's tech team have?

Please specify the approximate percentages of the employment status of the people working for your organization's tech team.

- Full-time employees
- Part-time employees
- Contractual employees
- Volunteers

Please respond to the following statements by indicating the extent to which you agree or disagree with them on a scale from Strongly Disagree to Strongly Agree. Be sure to answer every statement.

| Strongly disagree | Somewhat disagree | Neither agree nor disagree | Somewhat agree | Strongly agree |
|---|---|---|---|---|

1. Employees/volunteers on the tech team have sufficient expertise to fulfill their current set of tasks effectively.
2. Employees/volunteers on the tech team have sufficient expertise to fulfill the tasks the organization would like to allocate to them in the future.

**Website**

Does your organization have a website?

- Yes
- No

How often does your organization update its website (e.g., updating the website platform and security, updating the design and user-friendliness)? If your organization's website is newly established, choose the option that represents the frequency at which your organization plans to update its website.

- Multiple times per month
- At least once a month
- At least once every three months
- At least once every six months
- At least once every year
- At least once every three years
- Less frequently than once every three years

When was the website last updated (by days)?

Please answer the following questions about your organization's website.

| Yes | No | Not applicable |
|---|---|---|

1. Is the organization's website mobile compatible?
2. Is it possible to register for organizational events on the website?
3. Does the website have a blog?
4. Does the website have an online store?
5. Is the website accessible for individuals with blindness or visual impairment?
6. Is the website accessible for individuals with auditory impairment?

On a scale of 1 to 5, how would you rate the mobile-friendliness of your website?

| 1 | 2 | 3 | 4 | 5 |
|---|---|---|---|---|

The mobile-friendliness could be improved substantially

The website is sufficiently mobile-friendly

Is your organization considering making its website mobile-compatible in the future?

- Yes
- No

Is your organization considering building a website in the future?

- Yes
- No

How valuable would you find a service that would connect you with volunteers to provide services for web-design?

| 1 | 2 | 3 | 4 | 5 |
|---|---|---|---|---|

Not valuable at all

Very valuable

### Mobile app

Does your organization have a mobile app?

- Yes
- No

Was the mobile app built internally (by part-time or full-time employees) or externally (by contractual employees or other third parties)?

- The mobile was app built internally (by part-time or full-time employees).
- The mobile was app built externally (by contractual employees or other third parties).

Is your organization considering building a mobile app in the future?

- Yes
- No

### Access to equipment and resource allocation

What percentage of the employees (full-time and/or part-time and/or contractual) require a computer to work effectively?

What percentage of the employees (full-time and/or part-time and/or contractual) has access to a computer?

What percentage of the employees (full-time and/or part-time and/or contractual) require a smartphone to work effectively?

What percentage of the employees (full-time and/or part-time and/or contractual) have access to a smartphone?

Overall, what percentage of your organization's annual budget is allocated to technology-related activities (costs for software and hardware purchases, online services, and tools - EXCLUDING the salaries/wages for the tech team employees and/or compensation for outside tech professionals)?

Overall, what percentage of your organization's annual budget is allocated to the salaries/wages for the tech team employees, and/or compensation for outside tech professionals?

### Tech tools

Which of the tech tools does your organization use to achieve certain objectives? Please select all that apply.

- Financial Technology (Financial Technology refers to software and other modern technologies that provide automated and improved financial services.)
- Social Media (Social media refers to applications based on internet technology or communication platforms and the use of Web 2.0 technologies and tools for connecting, conversing and creating content online, with customers, suppliers, or other partners, or within the enterprise.)
- The Internet of Things (IoT) (The Internet of Things (IoT) refers to interconnected devices or systems, often called "smart" devices or "smart" systems. They collect and exchange data and can be monitored or remotely controlled via the Internet, through software on computers or smartphones.)
- Cloud Computing (ICT Services) (Cloud computing refers to ICT services that are used over the Internet to access software, computing power, storage capacity etc.)
- Data Analysis (Data analysis is a process of inspecting, cleansing, transforming, and modelling data with the goal of discovering useful information, informing conclusions, and supporting decision-making.)
- Automation (Automation describes a wide range of technologies that reduce human intervention in processes.)
- App Development (App development is the process in which developers create an application to be used on smartphones, tablets and other mobile devices.)
- Email Marketing (Email marketing is the act of sending a commercial message, typically to a group of people, using email.)
- Other: Please Specify
- No tech tools are used

### Social media

Does your organization have a defined role for social media-related tasks assigned to any of the employees (full-time and/or part-time and/or contractual) or volunteers?

- Yes
- No

How essential do you think the role social media plays in your organization's external communication strategy?

| 1 | 2 | 3 | 4 | 5 |
|---|---|---|---|---|

Not essential at all — Very essential

Please select the social media platforms your organization is active on. Please select all that apply.

- Facebook
- Instagram
- Twitter
- LinkedIn
- TikTok
- Other [Please Specify]

Please rank the importance of the social media platforms your organization is active on.

- Facebook
- Instagram
- Twitter
- LinkedIn
- TikTok
- Other [Please Specify]

How many followers does your organization's account have on Facebook?

How many followers does your organization's account have on Instagram?

How many followers does your organization's account have on Twitter?

How many followers does your organization's account have on LinkedIn?

How many followers does your organization's account have on TikTok?

### Reliance on tech tools

To which extent does your organization rely on digitized solutions and tech tools for the following tasks your organization may have? (Note: If the stated task is not applicable to your organization, select the NA option)

| 1 | 2 | 3 | 4 | 5 | Not applicable |
|---|---|---|---|---|---|

Not at all — To a great extent

- Internal Communication
- External communication with the organization's target audience
- External communication with donors
- External communication with other organizations/ or businesses
- Task Management
- Accounting
- Security
- Other (Please specify the task and state the level of reliance on tech usage)

Which internal communication tools does your organization use? Please select all that apply.

- Instant messaging (e.g. Whatsapp, Messenger)
- Internal Communication Platforms (e.g. Slack, Discord)
- Emails
- All-in-one employee apps
- Intranet
- Bulletin Boards
- Virtual Meeting Softwares
- Other (please specify)

Which external communication tools does your organization use? Please select all that apply.

- Help Desk Software (e.g. Help Scout, ZenDesk, Hiver)
- Live Chat Software ( e.g. Olark, LiveChat, Pure Chat)
- Knowledge base Software (e.g. HelpDocs Document360, Helpjuice)
- Email Marketing Software (e.g. Mailchimp, Sendinblue, Campaign Monitor)
- CRM (Customer Relationship Management) Software (e.g. Salesforce, Zoho, Keap)
- Messaging Software (e.g. Intercom, Kustomer, Drift)
- Call-center Software (e.g. Aircall, RingCentral, Channels)
- Service Desk Software (e.g. SysAid, BOSSDesk, Onspring)
- Chatbot Software (e.g. LivePerson, ChatBot, Chatfuel)
- Status Page Software (e.g. StatusCast, Statuspage, Uptrends)
- Survey Software (e.g. SurveyMonkey, Typeform, SurveySparrow)
- Text Messaging Software (Avochato, Twilio, TextMagic)
- Online Community Software (Higher Logic, Tribe, Mobilize)
- Social Listening Software (Hootsuite, Sprout Social, Buffer)
- Virtual Meeting Software (e.g. Zoom, Whereby, Lifesize)
- Email
- Social Media
- Other (Please Specify)

Please state the task management tool/tools (e.g. Trello) your organization currently uses.

To what extent do you think utilizing tech tools has made your organization's work more efficient?

| 1 | 2 | 3 | 4 | 5 |
|---|---|---|---|---|

Tech has not made the organization's work more efficient.

Tech has made the organization's work more efficient to a great extent.

To what extent do you think utilizing additional tech tools has the potential to make your organization's work more efficient?

| 1 | 2 | 3 | 4 | 5 |
|---|---|---|---|---|

Utilizing additional tech tools would not make the organization's work more efficient.

Utilizing additional tech tools would definitely make the organization's work more efficient.

How valuable would you find a service that would connect you with volunteers willing to help you with tech-related work?

| 1 | 2 | 3 | 4 | 5 |
|---|---|---|---|---|

Not valuable at all

Very valuable

**Data collection, storage, and analysis**

Does your organization collect and/or store data (in spreadsheets on local computers or databases, in a central data warehouse, etc.)?

- Yes
- No

Please select the statement best fitting for the current state of your organization.

- Data is mainly kept in spreadsheets online or on local computers.
- Data is stored in various databases online.
- Data is stored both on online databases and spreadsheets
- Data is stored in data warehouses or data lakes.
- Other: Please Specify

Does your organization analyze the collected/stored data to achieve certain objectives?

- Yes
- No

How valuable would you find a service that would connect you with data scientist volunteers to help you analyze the collected/stored data?

| 1 | 2 | 3 | 4 | 5 |
|---|---|---|---|---|

Not valuable at all — Very valuable

Please respond to the following statements by indicating the extent to which you agree or disagree with them on a scale from Strongly Disagree to Strongly Agree. Be sure to answer every statement.

| Strongly disagree | Somewhat disagree | Neither agree nor disagree | Somewhat agree | Strongly agree |
|---|---|---|---|---|

1. Our organization analyzes data for describing, i.e., understanding what happened.
2. Our organization analyzes data for diagnosing, i.e., understanding why did this happen.
3. Our organization analyzes data for predicting i.e., understanding what will happen.
4. Our organization analyzes data for prescribing i.e., understanding how we will make this happen.
5. Our organization analyzes data for innovation i.e., understanding what we can do.

Please respond to the following statements by indicating the extent to which you agree or disagree with them on a scale from Strongly Disagree to Strongly Agree. Be sure to answer every statement.

| Strongly disagree | Somewhat disagree | Neither agree nor disagree | Somewhat agree | Strongly agree |
|---|---|---|---|---|

1. Employees/volunteers working on data analysis have sufficient expertise to fulfill their current set of tasks effectively.
2. Employees/volunteers working on data analysis have sufficient expertise to fulfill the tasks the organization would like to allocate to them in the future.

**Security**

Has the digital security of your organization ever been successfully compromised by cyberattacks such as hacking or phishing?

- Yes
- No

How many times has your organization been successfully compromised by cyberattacks?

Has your organization lost access to its accounts due to a cyberattack?

- Yes
- No

Has your organization lost access to its accounts due to forgetting/losing passwords?

- Yes
- No

Does your organization back up its data?

- Yes
- Yes, but additional backup is needed
- No
- Not applicable

Has your organization suffered data loss?

- Yes
- No
- Not applicable

What kind of security measures does your organization use to keep its passwords safe? Select all that apply.

- The organization uses a password management tool.
- The organization implements Multi-Factor Authentication.
- The organization implements password encryption.
- The organization defines and enforces policies to change passwords periodically.
- Other: Please specify

### Challenges and required resources

What are your organization's most significant challenges in utilizing technology and data to achieve its goals? Select all that apply.

- The organization lacks sufficient physical equipment (e.g., there is a need for computers, smartphones, storage, servers, etc.)
- The organization has an insufficient workforce (e.g., there is a need for more volunteers/ employees)
- The organization's existing workforce has insufficient expertise.
- Other: Please specify

How much funding would your organization require to overcome the challenges in utilizing technology and data?

Suppose your organization's annual budget has increased by 100%. On a scale of 1 to 5, please indicate the prioritization of investing in technology and data utilization with this extra funding.

| 1 | 2 | 3 | 4 | 5 |
|---|---|---|---|---|

Would not be a priority — Would be the first priority

### Information about the respondent

In which year did you start working with this organization?

What is your role in the current organization you are working at?

Did you have another role prior to the current one in the current organization you are working at? If so, please specify.

- No
- Yes

Did you work with another animal advocacy/protection organization before? If so, please specify the names of the organizations.

- Yes
- No

What were your roles in the organizations you have worked at before?

## Appendix C. Details of Analytic Methods and Results

### Data Cleaning and Analysis

Among the 117 responses received, two organizations had duplicate entries. For one of these organizations, we retained the entry from the member who had been at the organization for a longer time (based on the year they started working at the organization). For the second organization, the reported tenure was the same across the two entries; thus, we retained the entry that had a longer survey completion time. Among the remaining 115 responses, one entry did not appear to be legitimate: for instance, the respondent's organization is Canadian, yet they reported that it is headquartered in Algeria, and the respondent reported having started working at the organization in 1900. Thus, this entry was removed from analyses, leaving 114 responses.

Note that the total number of responses is not the same across survey questions for a few reasons. First, many questions were only shown to those whom the questions were applicable (e.g., number of followers on Instagram was only requested if the organization used Instagram). In addition, respondents were free to skip most of the questions in the survey.

There was one question that we decided to omit from the report: "How much funding would your organization require to overcome the challenges in utilizing technology and data?" We did not present the results from this question because there were no instructions about the currency or time frame (a month, quarter, a year, etc.) for the funding, leading to unreliable responses.

Data was analyzed using Stata. In the report, we provided descriptive statistics, including percentages, means, and medians. In general, percentages were calculated using the total number of possible responses (ignoring missing responses) as the denominator. For example, if the question was shown to 50 respondents and only 48 responded to it, the percentage of those who selected each option of the question was always out of 50. As noted in the methodology section, results from questions with rating scales (1 to 5) were expressed as percentages of organizations that selected the top two choices (4 or 5) versus those that selected the other choices (3 or less). For means and medians, we excluded missing responses. For example, if only 10 organizations responded to a question, the mean across the 10 organizations was computed.

We also report relationships between different variables; we computed correlations and focused on those that were statistically significant.

### Limitations of the Study

Although this study aims to provide thorough insights into the use of technology and data within the animal protection movement, it is important to acknowledge limitations and implications for future research.

First, we relied on each respondent to tell us about their organization's current practices, challenges, and plans. It is possible that the respondents were inaccurate and provided biased answers, intentionally or unintentionally. In particular, questions that require subjective judgments, such as which services would be valuable for the organization, are at best a reflection of the respondent's opinion; we could not assess whether their opinions are shared by organizational leaders or its members generally. Future research could consider incorporating objective measures or external validations to enhance the reliability of the data. For example, auditing tools could be used to assess the extent to which an organization's website is mobile-friendly and accessible to users with disabilities.

Second, it was important to keep the survey length reasonable, which meant that some topics were omitted or not extensively covered. Future research could focus on examining physical infrastructure for tech, including Internet connectivity, and expand the definition of tech teams to include roles such as product manager, DevOps, and user experience (UX) designers. Moreover, we did not explore other potentially important topics, such as the extent to which organizations within the movement are concerned about sustainability and the environmental impact of using tech and data (Onderdelinden, 2022). Future research could also consider socio-cultural factors as potential barriers to using specific tech tools. For example, women and people of color may feel alienated or mistreated in online spaces (Eschmann, 2020; Van der Wilk, 2018).

Finally, despite our efforts to maximize participation, the total number of responses was limited. Thus, results from this study should not be assumed to represent the organizations within the movement as a whole. Future research could employ additional strategies to encourage higher participation from a broader range of organizations to enhance the overall representation and diversity of perspectives.

# REFERENCES


Carty, V. (2018). Social movements and new technology. Routledge. https://doi.org/10.4324/9780429493119

Eschmann, R. (2020). Unmasking racism: Students of color and expressions of racism in online spaces. Social Problems, 67, 418–436. https://doi.org/10.1093/socpro/spz026

Isa, N. (2021, August 5). Make your NGO or NPO website accessible today. Best Website Accessibility. https://bestwebsiteaccessibility.com/accessibility-is-mandatory-for-ngo-npo-websites/

Onderdelinden, E. (2022, September 27). Big data, big environmental impact? Data-based insights can be a force for good, if treated with care. Deloitte. https://www2.deloitte.com/nl/nl/blog/sustainability/2022/big-data-big-environmental-impact.html

Orzechowski, K. (2020, April 9). The animal rights movement: History and facts about animal rights. Faunalytics. https://faunalytics.org/the-animal-rights-movement-history-and-facts-about-animal-rights/

Oswal, S. K., & Meloncon, L. (2014). Paying attention to accessibility when designing online courses in technical and professional communication. Journal of Business and Technical Communication, 28, 271-300. https://doi.org/10.1177/1050651914524780

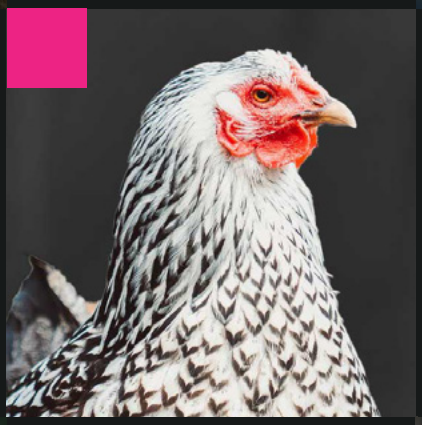
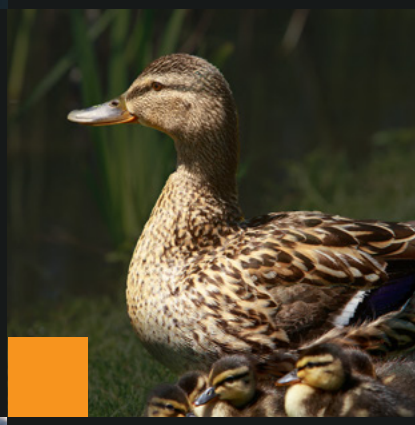
Taylor, P. (2023, January 18). Forecast number of mobile users worldwide from 2020 to 2025. Statista. https://www.statista.com/statistics/218984/number-of-global-mobile-users-since-2010/

Van der Wilk, A. (2018). Cyber violence and hate speech online against women. Policy Department for Citizen's Rights and Constitutional Affairs. https://www.europarl.europa.eu/thinktank/en/document/IPOL_STU(2018)604979

World Health Organization. (2019). World report on vision. https://www.who.int/publications/i/item/9789241516570

World Health Organization. (2021). World report on hearing. https://www.who.int/publications/i/item/9789240020481



VEGAN HACKTIVISTS

compassion. creativity. code.

@veganhacktivists  Vegan Hacktivists  hello@veganhacktivists.org

**VEGANHACKTIVISTS.ORG**