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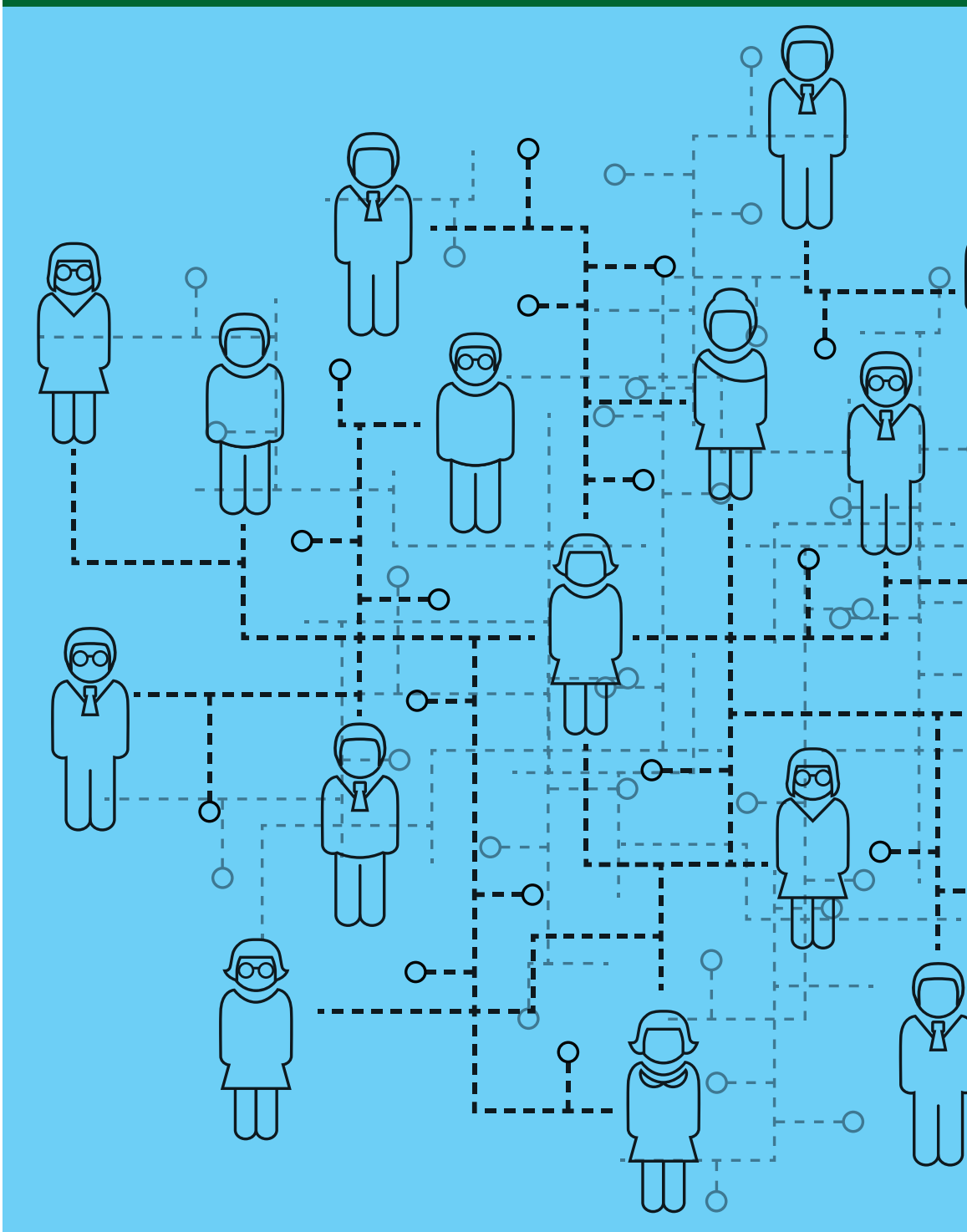
Considerations for Designing an Optimal EHS Organizational Structure



Executive Summary

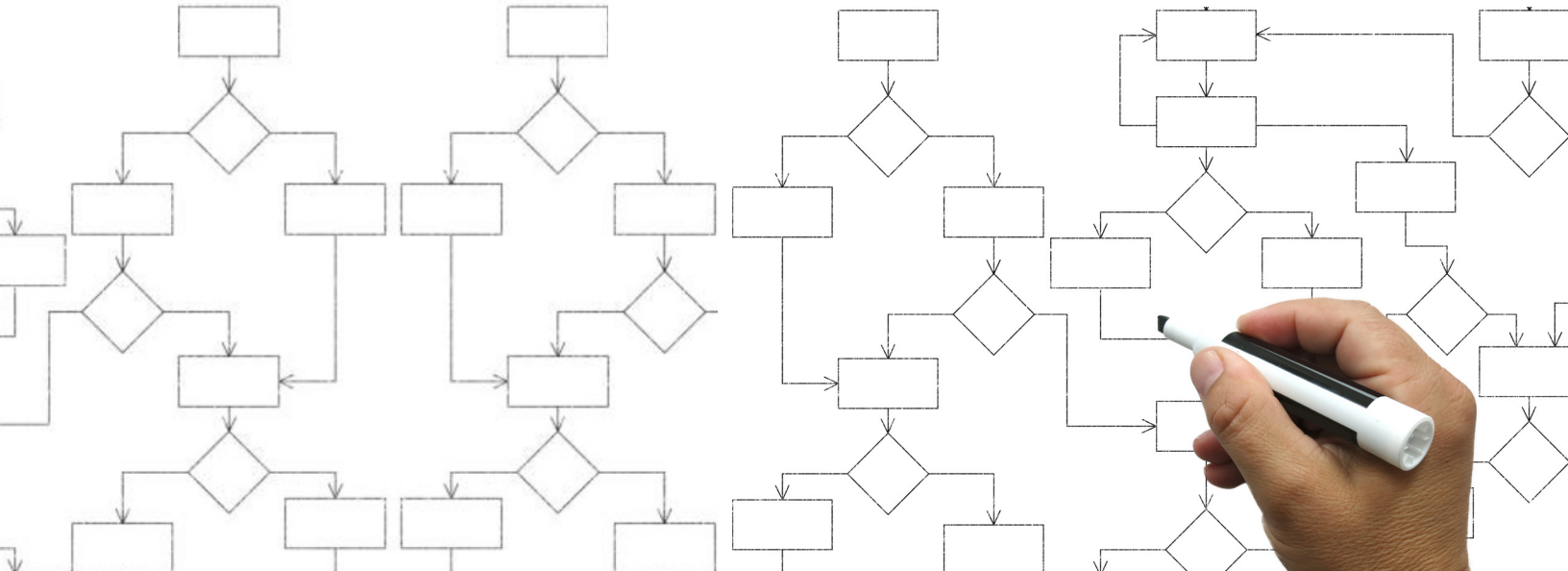
Cultivating a high functioning and effective environment, health and safety (EHS) initiative within organizations depends on a multitude of factors. The leadership support for the initiative, management systems, resources devoted to EHS, personnel in place to execute EHS work, safety culture and the structure of an organization's EHS program are all important antecedents to successful EHS initiatives and safer organizations. While many of these factors and their relationship to successful EHS initiatives have been the focus of previous research, optimal EHS organizational structure is a less commonly studied topic in safety research.

This report will provide a unique perspective on EHS organizational structures. Organizational structure types and the importance of instituting a proper structure for organizational and EHS efficiency will be explored through a review of extant literature. Additionally, data from large, mature companies regarding their EHS organizational structures, measures and indicators of EHS success, and factors that should be considered when designing EHS structures are synthesized. The experiences and insights of senior EHS professionals and research on organizational structure together provide a well-rounded view of what constitutes an optimal EHS organizational structure.

Some potential best practices emerged in these findings, including the following specifically mentioned by participants: 1) develop and maintain consistent and ethical leadership, 2) account for the number of EHS resources available, 3) base EHS professional expertise on the level of operational risk and 4) have EHS report to the highest level of the company. Practical applications of these best practices are mentioned at the conclusion of the paper.

Background Information

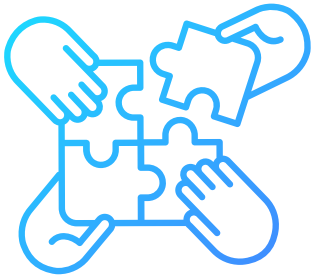
Organizational structures describe patterns of actions and interactions between employees that are intended to impact the organization's goals (Janićijević, 2013). Organizational structure aids in directing and shaping how employees interact and perform their tasks to achieve such goals. Organizations also have differing characteristics, such as their centralization, which refers to the amount of decision-making authority that lives at the top of the organization, the "flatness" of an organization, which refers to the different hierarchical levels of an organization, and the formalization of an organization, which refers to how much an organization is defined by formal processes or standards for completing tasks. These can be important, distinguishing factors of many organizational structures. Other factors are departmentalization, which concerns how activities or tasks are grouped into different units, and specialization, which concerns the degree to which employees complete varied, specialized tasks. High specialization insinuates employees complete very different tasks, while low specialization means "everyone does everything" (Janićijević, 2013). While modern business has seen the development of other organization structure types and properties, Mintzberg (1993) defined what are considered the five original types of organizational structures: simple model, bureaucratic model, professional model, model of adhocracy and the divisional model.



- **Simple model:** a structure typically used by small businesses, it is defined as having low departmentalization, low work specialization, being flat and having authority centralized to the leader
- **Bureaucratic model:** a structure more typical in large and mature businesses, it is defined as having a strict hierarchical structure with formal and standardized work processes and high work specialization, being less flat, and high centralization with the leader
- **Professional model:** a structure employed in organizations that are highly technical, such as universities or hospitals, defined as being highly formal and standardized, decentralized to give varying professionals the decision authority they need and less flexible
- **Adhocracy model:** a structure employed in small, highly technical organizations such as consulting firms, defined as being decentralized, team centric and focused on communication
- **Divisional model:** a structure commonly employed in large and mature companies that serve a multitude of purposes and have distinct operational units, defined as being mostly decentralized as an entire company, but more centralized within units

While these are more formalized definitions and structure types, in practice, organizational structures may be a combination of the differing characteristics defined in these five structure types. Additionally, even if the structure type of an organization does not cleanly fall into one of the five models above, almost every organization follows some general type of structure to meet its goals. Increasingly, organizations are focusing on the amount they function as a matrix, in which there are horizontal, project-based teams in addition to more traditional vertical teams (Kuprenas, 2003). In matrix organizations, employees often report to both a department head and a project head of an interdisciplinary project-based team. Therefore, regarding reporting lines, there is both lateral authority through the project team and hierarchical authority from the functional team. Such a structure is used often within project management, given that many project management functions are complex. Matrix structure is often implemented to utilize technical assistance across many areas of an organization (Kuprenas, 2003; Najdawi & Liberatore, 1997), which makes it a popular style to accommodate multidisciplinary, project-based organizations. In EHS, matrix functionality may be used in organizations where EHS professionals are needed across multiple projects that stretch across the organization's domains.

Some organizations define their job tasks and work functions as being more centrally assembled into a single team or unit within the organization, while others experience their functions being spread out across the organization. For example, some organizations may have a centralized EHS team or function, while others may have their EHS employees in many different functions within the organization. Communication and centralization of decision making may differ across these two styles, in which centrally assembled functions may have stronger communication and decision-making authority. Matrix designed organizations and centrally assembled organizations will be explored more in the findings section of this paper.



Benefits of Organizational Structure

The way an organization is structured goes well beyond EHS function. Organizational structure helps to define how tasks are assigned, authority is distributed and communication flows within an organization. Without some sort of organizational structure, much of the functionality of teams and operations would be stunted. Depending on the organization's needs and priorities, differing structure types can provide a framework for how employees are intended to engage with one another, which can ultimately aid in goal attainment. Structure dictates the responsibilities and roles in an organization, and therefore, how people function (Corkindale, 2011).

Notably, in organizations with well-defined structures, employees can benefit and productivity is enhanced. With a structure in place, employees have more role clarity, functions and business units can be more coordinated with one another, systems for sharing ideas and collaboration are often in place, and decision making can usually be done more quickly. Conversely, barriers to communication caused by inadequate reporting structures can be especially challenging for EHS professionals, whose goals often enable company-wide impact. Moreover, without a proper structure in place, some teams may suffer from a "stovepipe" effect, in which isolated departments focus solely on their independent goals rather than collaborating across departments (Hax & Majluf, 1981).

Lastly, previous work from the Campbell Institute™ indicates the design of an EHS organizational structure is likely to influence the organization's safety culture (2021). Antonsen (2009) stated most literature reviews of safety culture conclude that it is "a set of safety-related attitudes, values or assumptions shared between the members of an organization." As discovered, a well-defined EHS organizational structure enables EHS professionals to build a robust safety culture that can be impacted across all levels of the organization. Given the necessity of upper management support, frontline worker involvement and proper reporting systems, organizational structure seems to be a clear antecedent to organizational safety culture. This connection is discussed more in the findings of this paper.

EHS Management Systems

Regardless of type, organizational structure can minimize confusion and foster accountability by designating a formal chain of command where a hierarchy of authority is defined. This hierarchy sets clear employee expectations and details the web of managerial systems that make up the organization. However, management systems are subject to organizational structure through a variety of means, including in decision-making processes, resource allocation and reporting hierarchy (Hax & Majluf, 1981).

Ideally, a company's EHS organizational structure ensures EHS professionals are working under a well-defined EHS management system. As part of a Campbell Institute research project exploring "world class" EHS programs (2012), researchers evaluated the applications of the Campbell Institute award winners from 2004-2011. Researchers identified five key elements of an integrated EHS management system, which include the following:

1. Management that demonstrates a strong commitment and remains heavily involved in the management system
2. Integration of EHS management system components in procedures, policies and operational systems
3. A robust audit program in place to identify system successes and weaknesses, with an external verification function
4. An EHS management system in which cultural challenges are anticipated and solutions are incorporated
5. Substantial consideration of contractors, suppliers and vendors in the EHS management system

While this research is prefaced with caution concerning its generalizability, these elements are a useful reference of an optimal EHS management system among well-established, safety-mature organizations. The Campbell Institute (2012) research findings also indicated that most of the award-winning organizations implemented one or more elements of key frameworks in their EHS management systems. Of those mentioned were the International Organization for Standardization (ISO 14001:2015, ISO 9001:2015), the Occupational Health and Safety Assessment Series of the American National Standards Institute and American Industrial Hygiene Association (ANSI/AIHA Z10).

Senior-level management also plays an important role in EHS management system effectiveness. Beyond the design and implementation of their structure, top-level management should be expected to continuously monitor the structure's effect on performance. ISO 45001:2018 an internationally recognized framework for managing occupational health and safety risks, emphasizes the importance of leadership commitment, worker involvement, risk assessment, legal and regulatory compliance and utilizing the Plan-Do-Check-Act methodology to manage health and safety.

Structuring EHS to Benefit the EHS Professional

It is important to consider the impact of organizational structure on the EHS professional. Prior research indicates an increased likelihood of uncertainty in the responsibilities and authority held in these cross-organizational roles (Minnick, 2013). Uncertainty can be found in role ambiguity, which encompasses both task ambiguity, or confusion around the scope of responsibilities, means-end knowledge and priority of expectations. Uncertainty also can be seen in socioemotional ambiguity, which involves uncertainty in performance evaluation and outcomes of safety role performance (Minnick, 2013).

In terms of which structure type promotes higher degrees of role ambiguity and socioemotional ambiguity, an American Society of Safety Professionals (ASSP) survey found higher degrees of role ambiguity in decentralized EHS structures in comparison to centralized (Minnick, 2013). However, when safety professionals were surveyed on a preferred structure, results were inconclusive. Ideally, all organizational structures can support the EHS function by reducing role ambiguity and increasing clear reporting lines, budget allocation and performance metrics.

Adding to the potential for role and socioemotional ambiguity, the role of the EHS professional is typically cross-disciplinary and subject to adapting company interests. For instance, there has been increasing interest in understanding and defining EHS function involvement in environment, social and governance (ESG) and human capital (National Safety Council, 2023). In a benchmarking study conducted by Avetta and the National Safety Council (2022), more than 75% of organizations that reported using an ESG or sustainability policy had varying degrees of involvement from their EHS function in executing their ESG strategy. In addition to ESG, organizations should anticipate the EHS function to continue to emerge in areas such as psychological safety, mental health, and serious incident and fatality prevention.

While an important consideration for an organization's EHS structure design and for the role of the EHS function, currently there is no magic number or formula organizations can rely on as a source for determining the proper ratio of full-time employees (FTEs) to EHS professionals. However, a National Association for Environmental, Health & Safety, and Sustainability Management (NAEM) study found the strongest determinant of how companies staff their EHS programs, regardless of revenue size or overall headcounts, was the level of operational risk involved at their organization (2020). This held true for budget allocation as well, where higher-risk industries were associated with greater EHS-related spending. However, NAEM also observed smaller companies spending more per person on their EHS programs than larger companies. More on EHS FTEs and staffing are discussed in the findings.

Overall, while standards for management systems and distinct organizational structures exist, in practice it can be assumed that EHS structures look different across different organizations. Additionally, organizations likely understand the impact structure can have on their organizational health, safety and performance. However, practical applications and benefits of certain structure types can be difficult to uncover. The goal of this project was to better understand common EHS organizational structures, measures and indicators of EHS success, and factors that should be considered when designing EHS structures. In conjunction with existing research, the experiences and insights of senior EHS and safety professionals provide a well-rounded view of factors to consider when designing an optimal EHS organizational structure.

Methods

Individuals from the Campbell Institute at NSC were invited to participate in this research project. A workgroup representing 13 unique organizations from the Campbell Institute was assembled to advise on the project and served as focus group participants. Two focus groups were conducted with the workgroup participants to learn more about their experiences with different organizational structures, their perceptions of what makes a successful EHS function within an organization and what indicators of success look like. Two researchers and one program manager from NSC attended each of the focus groups to lead questioning and transcribe responses. Individuals from the workgroup who were unable to participate in the focus groups were surveyed using the focus group questions. The survey also was sent to Campbell Institute members to collect additional responses and capture a wider range of professional experience. In total, qualitative data from 22 individuals was gathered; four participated in focus groups and 18 completed surveys. Data were transcribed and synthesized by two researchers to uncover common themes and responses through thematic analysis. Both researchers transcribed and synthesized all focus group responses. Survey response analysis was divided equally by the researchers. Summaries were collated for each item. Four themes emerged from thematic clustering: 1) landscape of EHS organizational structures, 2) linking organizational structure and EHS success, 3) common chains of command and 4) there's more to know.

In addition to focus group responses, a brief literature search was conducted regarding common organizational structures and best practices in EHS organizational function design. Extant literature on such topics is also synthesized throughout this paper.

Findings

The 22 participants represented a range of industries (Figure 1). In terms of company size, participants represented a range of small- to large-sized organizations, with the majority having more than 10,001 employees (Figure 2). This also is reflected in annual revenue (Figure 3), where most sampled organization's annual revenue exceeded $1 billion.

Figure 1. Industry Representation of Participants

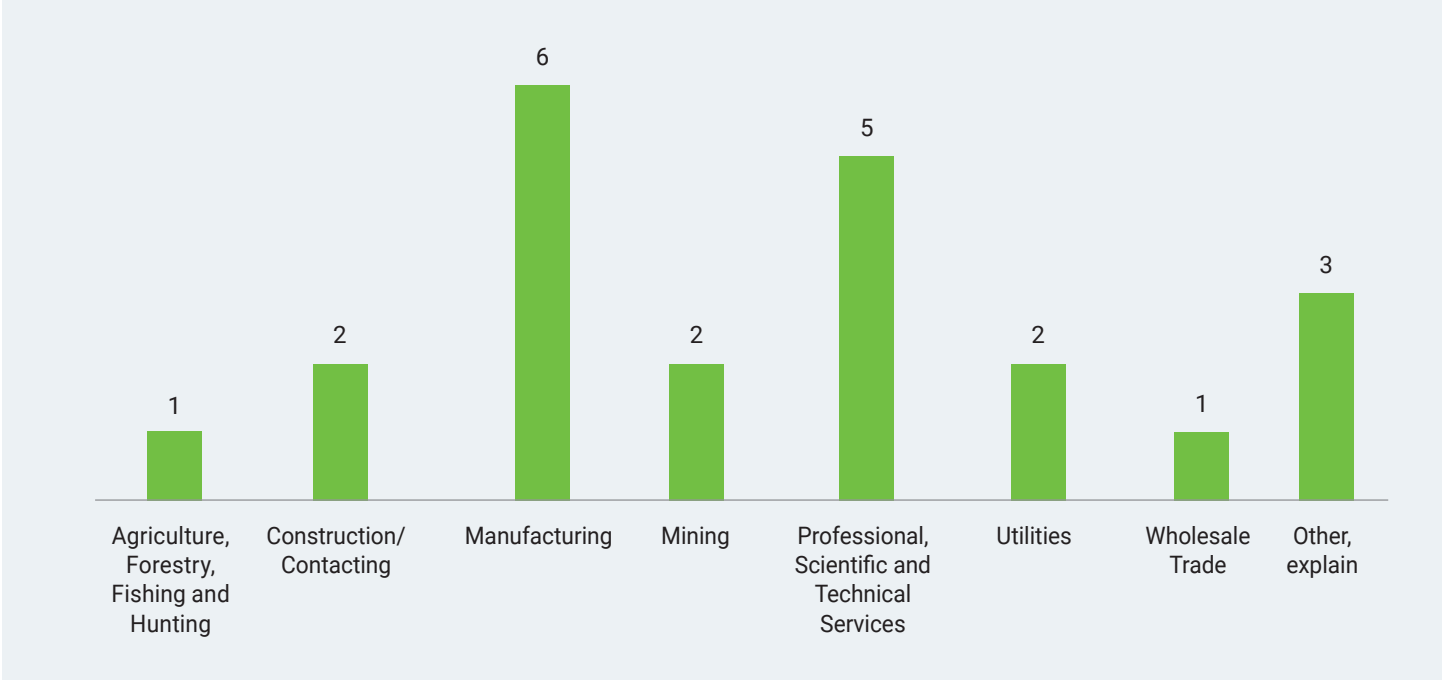


Figure 2. Organization Size of Participants

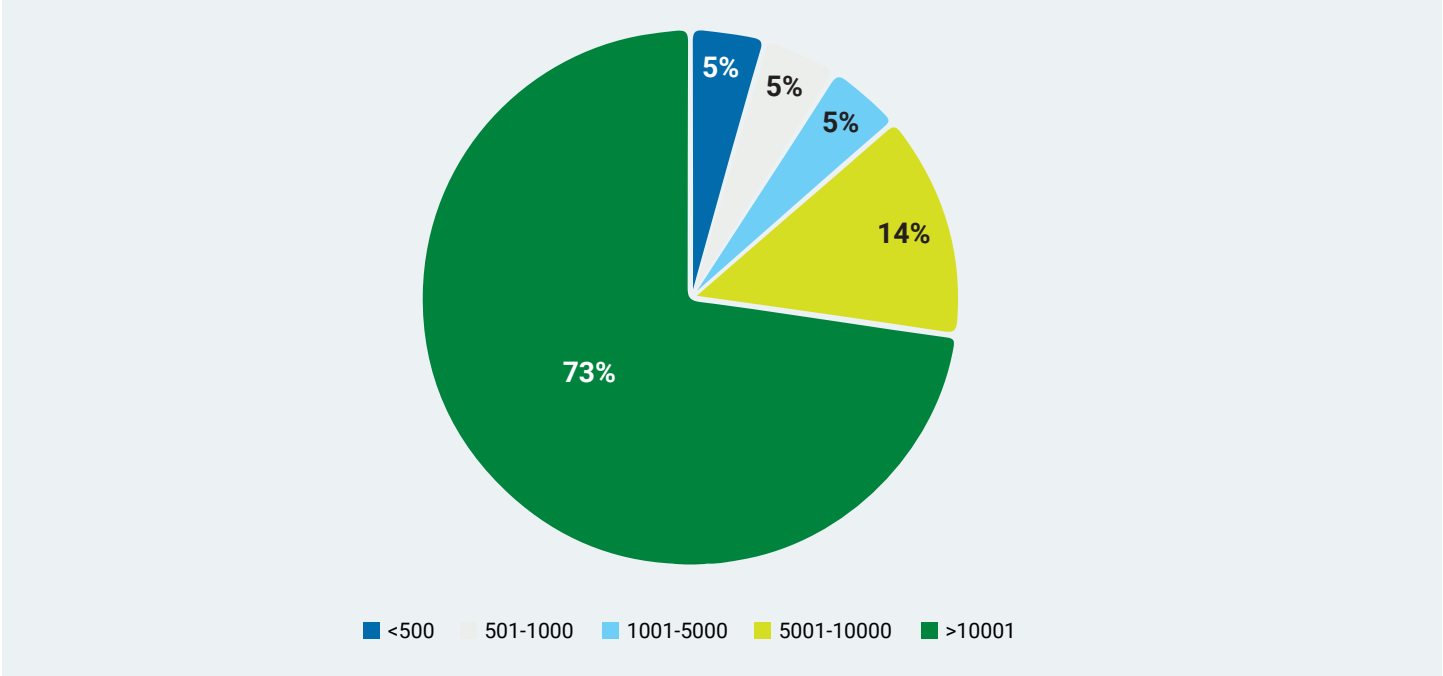
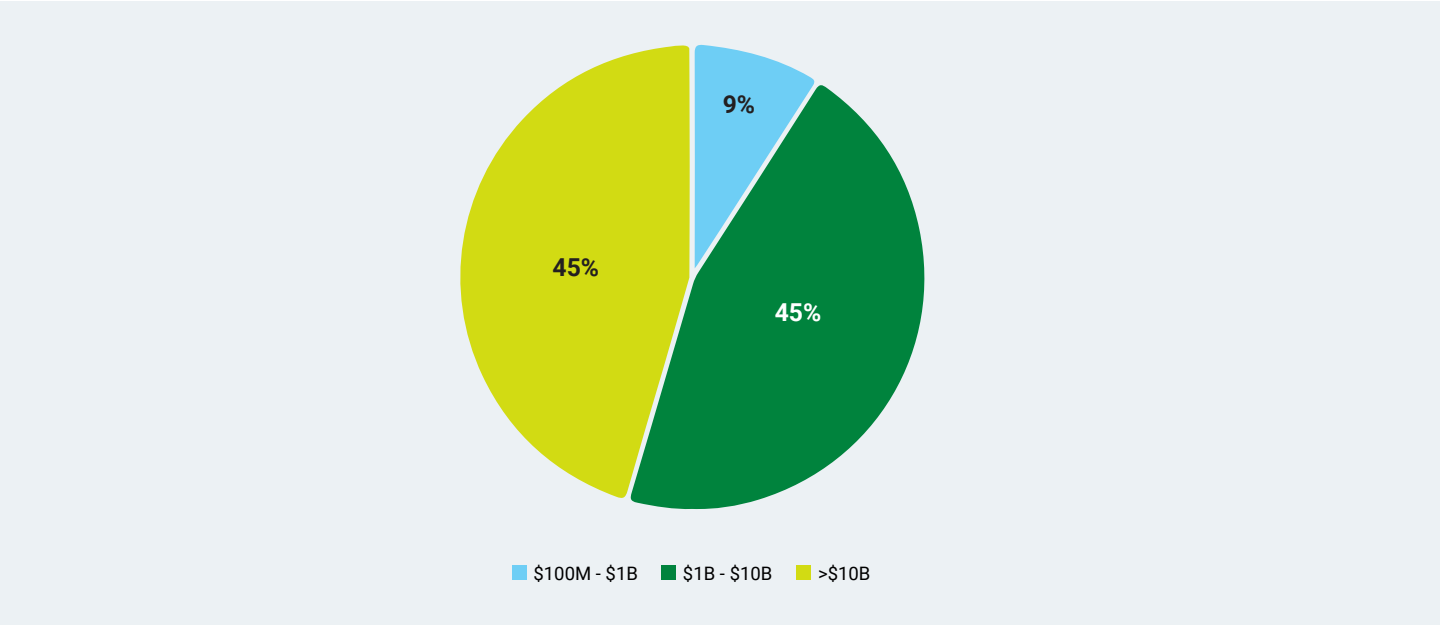


Figure 3. Annual Organization Revenue of Participants



Landscape of EHS Organizational Structures

Organizations vary on what their organizational structure entails. Factors such as resources, priorities, leadership, risks and the work being done all impact how an organization, and specifically an EHS function, might be structured. As these factors change, so might the structure of an organization.

Structure Types

Despite this variability in structure seen across organizations, two overarching structure types prevailed for participants. Participants referenced that their organizations were centrally assembled or matrixed, which loosely fits the concepts of being centralized or decentralized. In centrally assembled models, organizations mentioned they had a strong central presence of EHS and less deployment of EHS personnel out into other business units. In more matrixed companies, EHS personnel were typically embedded in the other functional teams with a smaller central presence of EHS. Additionally, some have EHS as a single, large entity within the organization, while others roll theirs into other large, centralized business functions. For example, one participating organization structures their EHS function within a larger safety and sustainability component. Related, there were differences in the vertical teams that EHS was in across participants. Organizations cited having their EHS functions report into larger operations, human resources (HR), supply chain, facilities or business functions.

However, while participants cited centralized and decentralized aspects of their structure, almost all organizations mentioned having a mix of both central EHS functions and decentralized EHS support at sites or within other departments. Only one responding organization mentioned being entirely decentralized, with completely distinct field safety and corporate safety functions. Related to this, many organizations discussed their EHS functionality as being two-fold, in which they had corporate EHS, which many refer to as “governance,” and operational EHS or “execution.” Specifically, those in operational EHS positions at sites are matrixed and often report to two supervisors.

Also, participants felt that having practices consistently implemented across regions and sites was important, regardless of being centrally assembled or matrixed. For example, having regional leaders reporting across the board into an EHS director allows for better consistency across regions and on expectations and achievements. Participants mentioned it also is important to have a set structure horizontally where expectations can be set similarly across the organization to consistently make an impact.

Design Considerations

In designing the EHS organizational structure, several companies emphasized the importance of first understanding the entire landscape of an organization. Participants considered a wide variety of components to operationalize and grow in their industry. Respondents indicated the following list of considerations when designing an EHS organizational structure relative to the overall business environment:

Business scope	Geography	Risk
Cultural fit	Nature of the work	Site complexity
Development	Number of sites	Size of sites
Emerging trends	Program requirements	System conformance
Governance	Relationship between business lines of an organization	

Participants also mentioned the importance of considering the EHS team and the ownership of EHS responsibilities when designing the organizational structure. Specifically mentioned in the focus groups, the impact of role ambiguity can negatively impact the likelihood of EHS function success. The following were listed as specific considerations in the design of any EHS organizational structure in terms of clearly designating the roles and responsibilities of the EHS professional and function:

Accountability for EHS performance	Regulatory compliance
Corporate structure	Relationships and complexity
Formalized education and designations	Required EHS technical experience (field vs. corporate)
Need to balance execution vs. governance	Staffing levels
Operational excellence	Technology

All survey respondents agreed these factors interact with each other to varying degrees. More specifically, respondents mentioned the impact of safety culture on performance, the impact of the complexity and size of sites on the requirements of the site, and corporate oversight influencing compliance, conformance and standardization.

When developing an EHS organizational structure, the role of contractors also should be considered. Fifty-five percent of survey respondents indicated contractors and consultants are utilized in their organizational structure to varying degrees. Two members also explicitly mentioned that contractor management is important in organizational structure design. In fact, one participant viewed this role as a “core element in the structure.” Twenty-seven percent of participants indicated they do not utilize contractors in their structure. The remaining 18% of respondents indicated they utilize contractors, but very rarely. The following were all mentioned as ways contractors were implemented into the organizational structure:

Abatement	Industrial hygiene sampling
Administrative aspects of compliance	Management of wastewater treatment facilities
Consulting for environmental compliance	Service providers
Environmental waste removal	Succession planning
Headcount supplementing	Training

Notably, and even though sometimes used, organizations recommended against using contractors to supplement headcount when possible. Additionally, while contractors may be utilized, they are not often represented on organizational charts or in more formal organizational hierarchies. This makes the management of contract workers more complex. Yet, the role of contractors is still an important consideration when designing and optimizing EHS structures.

Adaptability of EHS Functions

Changes in organizations are inevitable. When asked about changes in their organizations, about half of respondents indicated they had experienced structural changes to their EHS functions in the last decade. Some mentioned their organization flattened, they transitioned to a centralized model after being distributed or matrixed, or they transitioned to a distributed model after being centralized. Some organizations even mentioned making this structural shift multiple times over the past decade. Related, about half of organizations stated they had experienced a merger or acquisition but none mentioned the mergers or acquisitions had impacted their EHS functions or organizational structures. This underscores the ability of EHS functions to adapt well to changing circumstances, whether organizational structure changes or changes resulting from mergers or acquisitions.

> *"Any structure can be effective provided there is good governance, executive sponsorship and presence"*

Recent interest in emerging topics like mental health, diversity, equity and inclusion (DEI), and environment and sustainability are increasing their presence in EHS regulatory and standards coverage. Resulting changes in EHS responsibility can vary from complete ownership of tasks to specific supportive roles. Survey results indicated that several organizations' EHS functions prioritize adaptability in their structure to handle changes in both structure and tasks. One respondent specifically described their EHS structure as "fluid based on the organization's overall strategy" but still described the response to sudden changes as challenging.

Two respondents mentioned determining the reallocation of resources and staff as an important consideration to meet expectations for changes in responsibility and goals. Both focus group and survey participants mentioned the EHS structure itself can change to meet new responsibilities. For instance, a survey respondent described how their EHS structure was recently split to adapt to changing responsibilities: environmental tasks went to legal and safety and health issues went to HR. While other organizations had not experienced the same degree of changes in EHS structure, it was common for respondents to describe adapting their structure to a strategy or a change in company direction, interest or priority.

Linking Organizational Structure and EHS Success

Participants cited perceiving a link between the structure of their organization, including their EHS function, and their successes. Fifty-eight percent of survey respondents reported a direct relationship between EHS structure and EHS success. Notably, the level of communication between the EHS function and executive leaders and being able to have direct communication lines was viewed as a reason for increased efficiency and success.

Indicators of EHS Success

Indicators and ways to measure EHS function success were varied. Some organizations reported their CEO or board drives what indicators of success should be, with varying levels of input from the EHS team or director. Other participants mentioned the EHS team makes recommendations for what the indicators should be and then these are brought to executive leadership. Indicators were most commonly measured monthly or annually, with those responding that measuring monthly allowed for more flexibility when issues arise. Most organizations cited common leading and lagging indicators to measure if their EHS functions were successful. Therefore, the interpretation was if injury rates are low and proactive measures are being taken to keep employees safe, then the EHS function must be operating well. Some respondents noted, at a corporate level, lagging indicators are more commonly focused on, while at an EHS-function level, leading indicators are more of the focus. Below are some leading and lagging indicators commonly referenced as reflecting the success of EHS teams:

Leading Indicators

Standards	Gemba walks	Psychological safety, inclusion and diversity
Competency assessments	Maturity indices	Recognition of safe behaviors
Corrective actions taken/closed	Near misses	Risk reductions
Hazard identification	Number of hazard assessments created or updated	Safety inspections
Inspections	Percent of life critical work replaced using technology	Serious injuries and fatalities (SIF) precursors
Job conditioning	Potential serious injuries and fatalities (PSIFs)	Trainings
Leadership engagement	Presence of or number of employee-led safety committees	Workplace observations

Lagging Indicators

Days away, restricted or transferred (DART)	Lost time incident rate (LTIR)	Recordable rate
First aids	Lost work day case count	Restricted work days
Fatalities	Loss work day case rate	Total recordable incident rate (TRIR)
Lost time accidents	Recordable count	Safety audits and compliance audit results

However, some organizations viewed the success of their EHS functions differently. These organizations did not look to safety performance metrics as an indication of EHS success, but instead looked to more organizational, cultural or employee-specific metrics. Such organizations also felt that everyone should own the EHS success of the organization. These organizations considered the following to determine if their EHS functions were successful:

Employee commitment	Number of external awards/ recognitions of team members	Safety culture
Employee engagement	Opportunities for internal growth	Scores on employee perception surveys
Employee satisfaction	Retention	Staffing ratios

Related to this, organizations mentioned setting key results or objectives annually in collaboration with executives or board members. For organizations that had a safety goal as one of just a few company-wide goals, success of the goal felt partially attributed to the fact that there was widespread and upper management support to meet that goal. As some put it, "what gets measured gets done." Yet, this can lead to frustration for some as it may appear that unless a goal is a corporate goal or involved in a corporate scorecard, efforts to reach the goal are not made. Therefore, success in goal achievement may feel inorganic.

Likely, a combination of measuring common leading and lagging indicators in conjunction with measuring cultural and employee-based metrics yields the best understanding of EHS efficiency and success. Organizations are encouraged to pay attention to both types of indicators, while being careful not to "over measure" or include too many indicators, as one survey participant mentioned. While indicator measurement is necessary, organizations may be spending time measuring variables that do not largely contribute to their outcomes of interest. Therefore, selecting several strong indicators of success is warranted.

Safety Culture

Most respondents considered the impact of safety culture in determining the overall success of their organizational design. In fact, 82% of survey respondents agreed there was a direct relationship between safety culture and EHS organizational structure, where structure either inhibits or enables safety culture. The remaining 18% viewed a marginal impact of organizational structure on safety culture, with one participant specifically citing that safety culture was driven more by leadership than structure.

Only one organization directly reported a positive impact of decentralization on safety culture. Decentralizing, for this organization, provided more direct interaction with EHS professionals at different levels of the organization, in turn, building a strong safety culture throughout the organization. However, two organizations determined that a decentralized structure could inhibit culture. Instead, they highlighted the importance of the consistency in centralized structures on safety culture. Consistent communication, company-wide understanding of resource and budget allocation, and autonomy were all mentioned as benefits on culture within centralized structures.

Participants mentioned inconsistencies in safety culture among different regional locations. One respondent indicated regional or model differences within their organization's operations, which inhibited organizational structure from directly impacting culture. Regional differences were mentioned during a focus group session as well, with one participant stating that managing safety culture in different regions can be challenging. However, a second focus group member who also operated regionally mentioned their organization made sure to employ a regional leader who understood the cultural context of their region. This was reported to have positively influenced safety culture when operating in different regions.

Common Chains of Command

Most organizations mentioned having a sole EHS leader. Within the EHS function, many organizations also cited that there are individual leaders of certain EHS specific tasks. For example, a respondent mentioned they have an EHS leader who handles corporate functions including governance, auditing and assurance, and another leader who handles all operational EHS activities performed at sites. Others mentioned their highest ranking EHS leader also has responsibilities outside of EHS. Those extra tasks included HR, legal, crisis management and security.

Organizations preferred a direct reporting line to the CEO if possible or sitting as close as possible to the CEO in the organizational structure. Yet, only 14% of organizations cited directly reporting to the CEO, with most organizations (55%) one level removed from the CEO. Having a representative close to the CEO ensures the importance of safety is well communicated to top organizational decision makers. This direct communication can make it simpler to request resources, discuss safety and operational performance, and institute beneficial changes and processes to ensure the EHS function is set up for success.

The relationship between senior leaders and EHS professionals at an organization can impact the structure design. Notably, the design of the EHS organizational structure and function is likely to change with the top leader, as leaders tend to bring in their own ideas from past experiences and may have their own set of priorities. Even so, most organizations mentioned a cross-functional team designs their organizational structure. A combination of EHS leadership (e.g., the most senior member in EHS at an organization, EHS global director, business unit EHS directors), HR leadership and senior leadership (e.g., top-level business leaders, chief officers) were involved in the design of structures at a vast majority of organizations. Also mentioned in structure design were the management team, strategy leaders and an EHS technology center. Considering the importance of senior leadership in the design of EHS structure, the relationship between EHS professionals and senior leadership is crucial to EHS success.

> *"Success in meeting EHS goals is dependent on leadership and culture in operations. EHS is an enabling function that helps set the tone for the culture, assure folks at the floor have the knowledge and tools they need to meet EHS goals, and perform the tactical work toward continuous improvement."*

There's More to Know

In general, there is more to uncover between EHS organizational structure and EHS success. While some companies mentioned measuring direct indicators of the success of their EHS functions, there is still more to learn. Common themes uncovered from project participants were a desire to better understand the number of EHS professionals needed on staff, how to anticipate and be prepared for changes technology will bring to EHS functions, and mixed perceptions of whether "best" practices for EHS organizational structures can truly be defined or not.

Employee Ratios

Most commonly, organizations sought a directive on the number of EHS personnel they should have on staff, depending upon their entire workforce size. Currently, there is no magic number for these FTE ratios. Organizations mentioned that such an industry-accepted ratio would help plan staffing and would ensure they were adequately keeping their workforces safe. Anecdotally, one participating organization mentioned they had in-house statisticians and analysts try to determine this FTE ratio based on risk scores and the types of risk that different areas of the business units and sites have. Yet, they mentioned they had not uncovered a true, universal ratio.

Sixty percent of respondents indicated they did not use any ratio to determine staffing levels. These respondents indicated more specific factors, like site complexity and need, are used to justify the appropriate EHS professional staffing levels at their organizations. Thirty percent of organizations used ratios at least sometimes to determine staffing levels. Ten percent mentioned not using a staffing ratio for each person at any facility but instead requiring an EHS leader at each site regardless of size or complexity. Thus, they used a ratio of sites to EHS leaders rather than EHS FTEs to company-wide FTEs.

For organizations that offered ratios, they were not based on an industry standard. In an industry such as construction, bids may come in that have contracts that require a certain number of EHS professionals. Moreover, one participant mentioned they have about 0.5 to one EHS FTE per 100 company-wide FTEs while another mentioned they are required to have at least one EHS FTE for every 200 other FTEs. One survey respondent reported a company-wide ratio of one EHS FTE per 150 FTEs, which was adjusted to account for specific risks and related factors. This exemplifies the variety seen in EHS staffing ratios. More research and investigation into this topic is warranted.

Utilization of Technology

Another area in which there is still more to be uncovered is the impact technology might make on organizational structures. When asked how technological advancements have influenced EHS organizational structures, most organizations noted no significant impact of technology on their EHS organizational structure. Others noted implementing technology has resulted in better communication, streamlined procedures and operations, and more efficiency, which in turn could impact their structure. However, impacts on structure were yet to be seen. Another organization speculated that introducing more technology may shrink the EHS structure over time as technology could replace some functions. In general, the impact of technology on EHS organizational structure is yet to be uncovered. There may remain no impact, or as speculated, EHS functions may be reduced if technology can replace or augment some job tasks.

"Best" Practices

One specific aim of this report was to evaluate determinable "best practices" utilized in designing successful EHS organizational structures. However, responses were mixed in terms of whether an individual or organization can utilize general best practices to determine their optimal EHS organizational structure. Fifty-four percent of survey respondents indicated there were not best practices to consider in organizational structure design.

Eighteen percent of survey respondents who did not view that there were best practices to consider in the design of their EHS organizational structure specifically stated there was no "one size fits all" solution to organizational structure. Best practices were considered too narrowly focused given the influence of a variety of contingencies on EHS organizational structure success. In searching for an optimal EHS organizational structure, these results suggest best practices need to be further explored in terms of whether there can be best practices in design and whether they would be accepted by the wider business community.

Although the determination of whether best practices in the design of EHS organizational structure as an effective way to optimize EHS function was mixed, some potential best practices emerged in these findings. The following were all specifically mentioned by survey respondents and focus group members as best practices for EHS organizational structure design, and more practical applications are mentioned in the following section:

- Develop and maintain consistent and ethical leadership
- Account for the number of EHS resources (e.g., personnel, technology, third-party resources) available
- Base EHS professional expertise on the level of operational risk
- Have EHS report to the highest level of the company

Practical Applications

The findings presented here from the qualitative data synthesis have several implications for organizations. Overall, most organizations found utility in collaborating with different business units to allow for more diverse opinions and actions. Most organizations also mentioned being satisfied with the structure they were in, regardless if it was mostly matrixed or mostly centralized. Despite this, several important observations and preferred methods of functioning emerged in the responses that may be helpful to other organizations planning or restructuring their EHS functions. These practical applications are grouped below. Safety and health professionals are encouraged to reference the findings and observations to learn about common practices, lessons learned and observations from mature organizations.

- **There are benefits and limitations to having a centralized or centrally assembled EHS function**
  - Benefits of being centralized:
    - May be easier to manage vertically since workers directly report together as one function
    - Auditing may function more efficiently since EHS personnel can look at the bigger picture of the company more easily
    - Resources are typically shared in this model, which can make responding to urgent needs and shifting support easier
    - Alleviates the possibility that EHS personnel are siloed in business units, which can cause changes and actions to not be made and done unilaterally across the organization
  - Limitations of being centralized:
    - May feel like EHS personnel have two bosses: their in-field or business unit boss and their EHS boss which can create competing priorities for EHS personnel
    - May be hard to develop a singular strategy for EHS if not all employees see themselves as an important part of EHS initiatives
    - May inadvertently develop policies, procedures or "one size fits all" solutions that do not work well for business units
    - May lessen the strength of a collective safety culture
- **There are benefits and limitations to being matrixed**
  - Benefits of being matrixed:
    - Easier to foster collaboration, shared ownership and accountability
    - Increased ability to link operational performance and safety performance
    - EHS personnel are deployed to where the work is done, making it easier for them to understand job demands and risks and offer field support
    - Standardization of practices across regions and business units can be done more easily
  - Limitations of being matrixed:
    - Can be more complex and require more coordination, direction and communication
    - May be more expensive to deploy and less cost effective in organizations with less risk
      - Lower risk operations may do well with simpler organizational models
    - May inadvertently create silos

- **Reporting structures and relationship building are important for EHS success**
  - The EHS function should report to the highest level of the organization
    - EHS functions can be more empowered if they have support from the highest level of leadership
      - Provides "backing" for the EHS function
      - Having a vice president or other high-ranking employee in the safety realm also is a good way to empower the safety team
  - Reporting into HR may provide some protection
    - Some organizations reported, regarding budgets, they feel more protected when the EHS function is in the HR vertical team
    - Being parallel to HR was reported as sometimes resulting in role clarity discussions about what is a safety issue and what is an HR issue
  - Meeting as a larger EHS team, despite the official organizational structure, is important
    - Similarly, meetings among smaller teams focused on specific safety issues (e.g., fall protection, ergonomics, personal protective equipment) also were recommended
  - It is beneficial to have a good relationship with the operations function
    - Operations must understand EHS ownership over safety issues including processes, procedures, people and equipment
  - Environmental compliance may be best suited as a separate component from EHS, as necessary
    - The functions of environmental compliance often require unique skills that EHS personnel are less equipped to complete

Conclusion

This report analyzed several types of EHS organizational structures in a variety of industry sectors. It utilized two focus groups and a survey administered to Campbell Institute members, with 22 participants representing their respective organizations. Campbell Institute members represent large-sized organizations, which may limit the applicability of the results to all organizations seeking to optimize their EHS organizational structure. The diversity in industries allows for responses to the focus group questions to better generalize to a wider audience of safety and health professionals. Therefore, the findings and recommendations should generalize well to organizations across a variety of industries. Nevertheless, the insights gleaned from this sample shed light on the perspectives of senior-level employees within established organizations regarding the EHS organizational structure design.

In lieu of a specific, optimal type of EHS organizational structure, organizations should consider a more tailored approach to their design accounting for the entire landscape of the organization. It was generally acknowledged that EHS operates uniquely compared to most other functions in an organization. Most organizations prioritized an adaptive EHS organizational structure that is well-equipped for anticipated changes to EHS roles and responsibilities and maintained a close relationship with higher-level leadership.

This report represents the Campbell Institute's first investigation into EHS organizational structures. Despite the valuable insights provided by well-established safety-conscious organizations, there remains a need for further exploration to enhance EHS organizational efficiency. Key areas for investigation include optimizing EHS staffing, preparing for technological advancements in EHS functions, and evaluating whether "best practices" truly optimize organizational structure and impact EHS functionality. The Campbell Institute research team will delve into these topics and more, engaging a broader audience in the process.

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References

Antonsen, S. (2009). Safety culture and the issue of power. *Safety Science, 47*(2), 183-191.

Avetta and the National Safety Council (2022). *Benchmarking Organizational Commitment to ESG.* https://www.avetta.com/blog/benchmarking-organizational-commitment-to-esg

Campbell Institute (2021). *Measuring and Promoting Safety Culture.* https://www.thecampbellinstitute.org/wp-content/uploads/2021/03/Campbell-Institute_Research-Outlook_Measuring-and-Promoting-Safety-Culture.pdf

Campbell Institute (2012). *Defining World Class EHS.* https://www.thecampbellinstitute.org/wp-content/uploads/2017/06/Campbell-Institute-Defining-World-Class-EHS-WP.pdf

Corkindale, G.(2011). *The Importance of Organizational Design and Structure.* https://hbr.org/2011/02/the-importance-of-organization

Hax, A. C., & Majluf, N. S. (1981). Organizational design: A survey and an approach. *Operations Research, 29*(3), 417-447.

Janićijević, N. (2013). The mutual impact of organizational culture and structure. *Economic annals, 58*(198), 35-60.

Kuprenas, J. A. (2003). Implementation and performance of a matrix organization structure. *International Journal of Project Management, 21*(1), 51-62.

Minnick, W. (2013). Understanding the antecedents of role stressors in the safety professional. *Journal of Workplace Behavioral Health, 28*(2), 134-157.

Mintzberg, H. (1993). *Structure in fives: Designing effective organizations.* Prentice-Hall, Inc.

National Association for Environmental, Health, Safety, and Sustainability Management (2020). *EHS & Sustainability Staffing, Structure & Budget.* https://www.naem.org/what-we-offer/research/reports/read/ehs-sustainability-staffing-structure-budgets-benchmark-2020

National Safety Council (2023). *New Value of Safety: From ESG to the Whole Person.* https://www.nsc.org/workplace/resources/new-value-of-safety

Najdawi, M. K., & Liberatore, M. J. (1997). Matrix management effectiveness: an update for research and engineering organizations. Project Management Institute.

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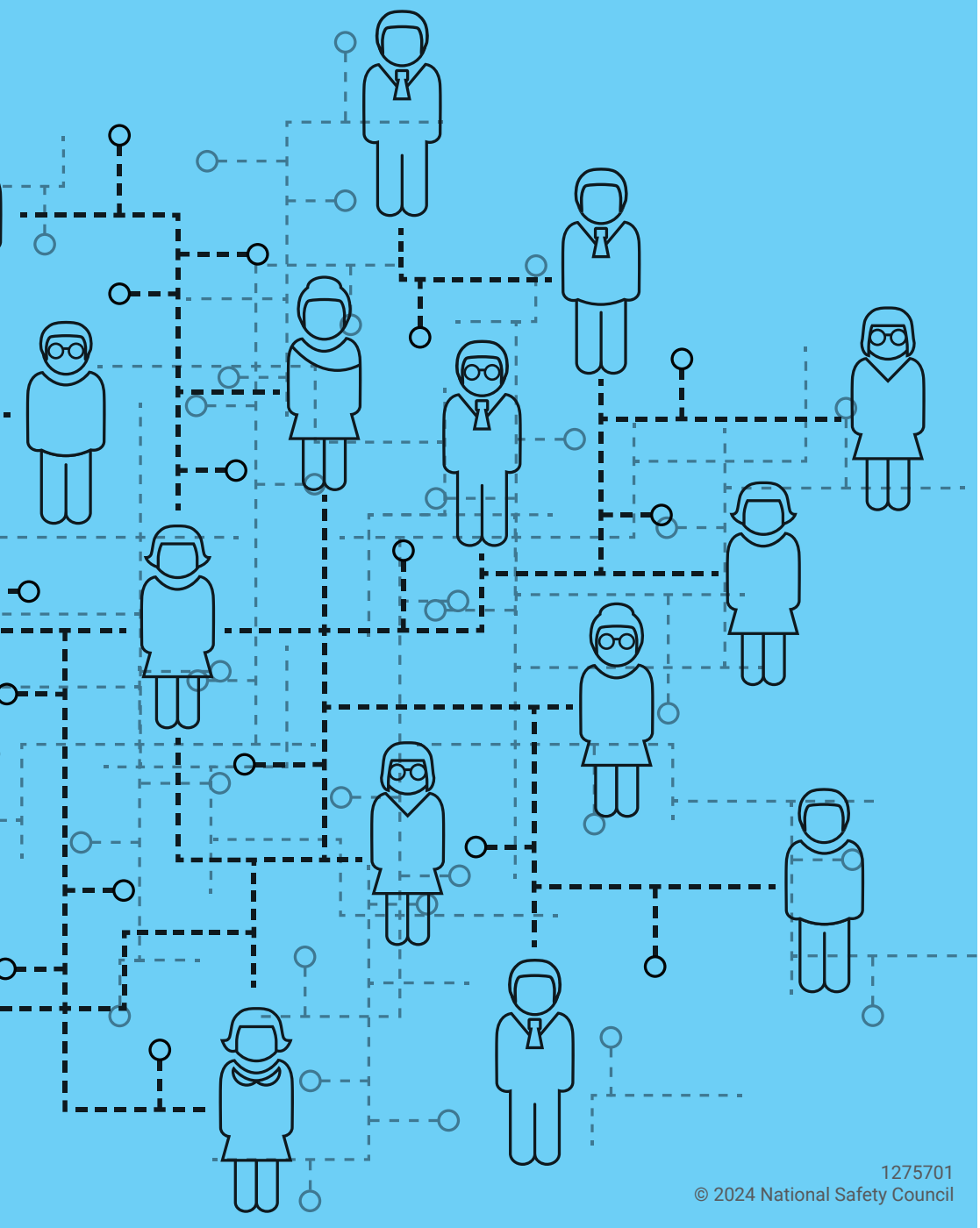

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