

Safety Culture and Communication in a Fulfillment Center: A Case Study

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Abstract

This research was conducted through daily survey of all on site associates numbering from 200 - 250, and managers totaling from 4 to 14, the following data was reported. Safety Leadership is determined by a measurement of un-favorable perceptions reported by associates on a 1 - 5 scale, with 1 being most unfavorable and 5 being most favorable. Any score at or below 3 would be considered unfavorable, with 4 and 5 being favorable. Following peak season (Christmas) 2021 average Safety-Score (leaders) in the outbound departments ranged between 25% and 36% unfavorable as reported by the 600 surveyed associates on January 30th, 2022. The department being 34%, meant that more than one third of associates viewed safety conditions as unfavorable on a 1 to 5 scale. While between 64% and 75% of associates maintained a positive view of safety, this was not in line with the desired benchmark of 89% favorable (11% unfavorable) on the same scale. For Safety leaders (Manager perspective) the average unfavourability in outbound departments ranged between 30% and 35% unfavorable (See Raw Data), compared to the desired 8% unfavorable.

Keywords

Safety Leadership, Safety Culture, Continuous Improvement

1. Introduction

Despite the known challenges leaders face in organizational culture, there continues to be a trend in operational failures due to leadership oversight (US Bureau of Labor Statistics, n.d.), and failure in leaders establishing and maintaining strong safety cultures (Markowski et al., 2021). The purpose of this case study is to expand upon the understanding of workplace culture, and its effect on safety. Lundell and Marcham (2018) state that the primary cause of workplace injury

and incident, is the failure of leadership to implement a strong safety culture, with warehouse and material handlers accounting for the fourth highest rate of injury with an incident rate of 3 per 100 workers annually (US Bureau of Labor Statistics, n.d.). The purpose of my research is to define leadership culture and its effects on safety through the identification of the challenge leaders face in implementing a strong safety culture. It seeks to look through the lens of pragmatism, using the case study method. The intent is to gather interview and survey data to better understand the relationships between safety culture and leadership, focusing on warehousing and fulfillment operations in the United States.

2. Background of the Study

This case study took place over a period of six weeks beginning January 30th, and concluding on March 12, 2022. The case involved approximately 640 associates, 20 front line managers and five mid-senior managers all working in an Amazon fulfillment center, on the outskirts of Columbus Ohio. All study participants were working in the outbound department, (packing and shipping of goods). The study involved analyzing survey data reported to the managers (front-line, and mid-level) on daily survey reporting tools. Of the managerial participants (front-line) one fell above the bar, and two fell below the bar in the results of the study (all mid-level managers achieved results within 2% deviation of each other). The case study involved the relationship between perceived safety of the management staff, and associate population as reported weekly in questionnaire format. No actions were taken to influence scores, and all participants were willing and able to participate in the case study. Permission was obtained from site leadership and all results reported to site leaders.

3. The Study

Interviews and observations were conducted with leaders to obtain perspective on Safety Leader Scores (manager rated) and Safety Associate (associate rated) Scores. Of the 20 interviewed managers, 18 understood that safety questions being asked were directed towards senior leaders in the organization, when in fact those scores reported to the mid-level (direct managers) of the respondents. Associates reported through group interviews, overwhelmingly in eight of eight interviews (occurring on all four shifts over a two-week period), that safety and cleanliness were not perceived as a priority in the front line, or senior managers.

3.1. Methodology

The methodology selected for this case study was mixed method research consisting of interviews and surveys. Interviews were conducted following GEMBA meetings conducted for a total of two weeks across all shifts with all managers (20 Front-Line managers and 5 Mid-Level managers). Survey responses were collected weekly from all associates on all shifts totaling 600, weekly touch bases were conducted with managers to analyze changes in scores as associates re-

ported improved or degrading perception of safety culture in the work units. Two controls were established (Control 1 and Control 2), wherein one manager did not verbally communicate safety measures in daily meetings but focused heavily on the interactions and actions taken to improve unsafe areas. While the other control focused on the communication aspect and less on the physical interactions and actions taken to improve safety.

Research was conducted through daily survey of all on site associates numbering from 200 - 250, and managers totaling from 4 to 14 the following data was reported. In reference to Safety leadership as a measurement of unfavorable perceptions reported by associates on a 1-5 scale, with 1 being most unfavorable and 5 being most favorable. Any score at or below 3 would be considered unfavorable, with 4 and 5 being favorable. Following peak season (Christmas) 2021 average Safety-Score (leaders) in the outbound departments ranged between 25% and 36% unfavorable as reported by the 600 surveyed associates on January 30th, 2022. The department being 34%, meaning that more than one third of associates viewed safety conditions as unfavorable on a 1 to 5 scale. While between 64% and 75% of associates maintained a positive view of safety, this was not in line with the desired benchmark of 89% favorable (11% unfavorable) on the same scale. For Safety leaders (Manager perspective) the average unfavourability in outbound departments ranged between 30% and 35% unfavorable (See **Table 1** Raw Data), compared to the desired 8% unfavorable.

3.2. Observations

Based on observations and lessons learned from these interviews and meetings with leaders it was apparent that managers believed that reporting unfavorable scores would reflect poorly on senior leaders and not next level supervisors. Associates believed that while their managers were mostly engaged in the operation, there were opportunities in cleanliness and accountability in the departments that led to a degradation in safety culture, and that leaders were not acting to improve accountability. Following education of managers on the application of leadership scores an improvement of 10% (30% reduction in unfavorable scores) materialized in two-weeks' time that was sustained throughout.

3.3. Communication

Actions set in place were to first educate managers on the purpose and direction of safety questions. Managers were informed that safety-based questions could be perceived as a lack of their own dedication to safety, and that reporting unfavourability fell not upon the senior leaders of the organization but rather their direct managers. 20/20 managers were coached and informed on this principal. Additionally, one on one conversations were held with each manager to gain perspective on the perceived and real value of safety culture and accountability on each shift and on each team. Based upon the feedback received managers reported to have concerns with other shifts and other departments and not having

environments that could be perceived as unfavorable but did not see faults within their own behaviors or departments.

Following actions were set in place to educate the associate population and provide communication to associates on the importance of safety to impact the observed culture of the departments. First actions were to bring up unfavorable topics that were reported in department meetings to gain insight on what actions could be taken to improve safety. This was done on all four shifts by 18 of the managers two of which chose not to take part in those actions. With initial feedback from associates being positive with an initial 5% improvement in safety scores, (25% improvement) in favorability. Based in these results it can be determined that approximately 25% of safety culture resides in the real or perceived implementation of actions, being driven primarily through communication. As there was no improvement and scores remained unchanged with the two managers who did not address the communication strategy (one being the control), it can be understood that universally communication of safety was the key indicator to influence safety culture perception.

3.4. Actions

Additional actions were put in place on the fourth week of the case to provide additional visibility and actions to improve safety. Managers were then directed to perform daily cleaning audits and to mention the success of those audits in their daily communications. Managers were to conduct these audits pre- and near the end of shifts to be visible in the departments actively working to improve cleanliness (The most reported unfavorable safety condition reported by associates). Initial feedback from associate bases were positive, with multiple escalations to senior leaders on the improvement in safety culture and an average improvement of an additional 2% in safety scores (10% reduction in unfavorable answers). This gives precedence that the visual indication of effort to improve safety accounted for only half of the total impact of communication.

Of the 20 managers working to improve scores the lowest performer saw no change (control 2), but also lacked the most in follow through on communication while achieving some of the more thorough audits. Giving credibility to communication of safety being more important to impacting culture than the visual act of cleaning and removing physical barriers to safety. On the other end of the spectrum, the manager who placed the most effort into communicating the expectations of safety (Control 1) saw a 14% change (34% to 22%) 44% improvement in safety perception.

3.5. Limitations to Research

This research was limited to a six-week study based upon the availability of the researcher and the scope of the study. The intended purpose of the study was to improve overall safety culture and perception while obtaining a better understanding of the pragmatic effects of actions and controls put into place. Further

research will be needed to better understand the long-term impact of communication compared to action on improving safety culture and perception in the workplace. This research does not address the long-term impact but rather the initial actions that managers can take to address unfavorable safety cultures to move them in the direction of providing a safer environment for their associates.

4. Conclusion

In conclusion the actions taken by managers within the organization were directly impacting the observed and reported perception of safety culture by associates, however very few managers understood the application of their actions and what impact those actions could have in relationship to associate perceptions. Of the 20 managers one fell greatly above the bar on % change and two fell significantly below the bar. The average improvement in safety scores was 11% across all managers (34% to 23%) with the highest change being 14% and the lowest being 0%. Among outliers, the manager with the highest investments in communication achieved the highest reduction in unfavourability, while the manager with the highest investment in actions and lowest in communication achieved the lowest (0%) improvement (Control 1, and Control 2).

It can be hypothesized that actions absent of communication have very little impact on safety culture. Communication in the absence of action accounts for 80% of the total potential improvement to culture, while communication and action achieve the remaining potential (20% residing in the actions following the communication) as seen in **Table 1** (Safety Leader Raw Data). The primary influencer on improving safety culture in the workplace is then the communication of safety topics, showing four times the impact of the actions taken. The frequency of communication (1 to 4 days per week) does not statistically create a diminishing return at or above three days a week but shows negligible impact when discussed only once a week. The best performing score previous to the project also remained 0 but did not seem to be impacted positively or negatively as a result of the actions or communication.

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Conflicts of Interest

The author declares no conflicts of interest regarding the publication of this paper.

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Appendix

Table 1. Raw Data. This table represents the raw data collected from January 30th to March 12, 2022.

Team 1	34	Team 2	32.2	Team 3	33.7	Team 4	34.7	34
36		35		36		35		
33		25		34		34		
34		34		35		34		
32		32		32		34		
31		34		32		35		
35		33		33		36		
Phase 0 Average			34%					
Phase 1 Average			34%					
Phase 2 Average			25%					
Phase 3 Average			23%					