



Board Report
of the
SGP Certified Facility Survey
November 2, 2015

Prepared by
George B. Glisan, Ph.D.
Distinguished Professon & Coordinator
Reese Graphic Arts & Imaging Technology Program
Appalachian State University
Boone, North Carolina

Table of Contents

Introduction	1
Environmental Metrics Findings	5
Environmental Metrics Summary Chart	9
Business Metrics Findings	18
Business Metrics Summary Chart	22
Implementation Feedback/Findings	31
Conclusions/Implications	33
Survey	36

SGP Certified Facility Research Report

Introduction

Sustainable Green Printing Partnership (SGP) was founded in 2008. The intent at its founding was to establish a certification process for the printing industry that would favorably impact the EHS (environmental, health and safety) performance of the print manufacturing industry. The certification process established comprehensive and specific criteria that require organizations to perform the following:

- Establish a Sustainability Policy that identifies and monitors applicable EHS regulations, Federal, State and local laws and compliance, commitment to continuous improvement in sustainability, pollution prevention that emphasizes reduction, reuse and recycling, and shares information on sustainability with all stakeholders
- Employ best management practices with respect to the design of product, responsible material sourcing, and all steps in the manufacturing process
- Implement and monitor a process that includes all manufacturing steps involved with converting input materials into a finished product including process byproducts (e.g., solid wastes, air pollution and wastewater) that have an EHS impact
- Achieve social aspects that impact the workplace, including equal opportunity, child labor and immigration, minimum wage/hour and overtime, and accommodation to persons with disabilities.

Currently there are 57 print manufacturing facilities in North America that have pursued and been certified by the SGP Partnership. While all facilities are subject to an annual reporting requirement (certification standard 3.5), there has never been a survey conducted of certified participants to assess the process, the performance achieved, implementation feedback, etc. Therefore, a study was commissioned to assess the value of SGP certification, the process and progress toward meeting environmental performance.

Research Design – Study Goals

After considerable discussion it was determined that a study should be undertaken, and it should focus on three areas of inquiry. The first area of inquiry was assessing the impact of SGP certification upon *environmental performance*. Specifically, this line of inquiry was to determine if the primary mission of the process, indeed the SGP brand, was fulfilling its value proposition. That value proposition is assurance to the print industry, its employees, print buyers and vendors that certified print facilities are able to produce printed products in a green and

sustainable manner. Therefore, the study question focused on results achieved by the SGP certification process. Does this process lead to superior performance, make no difference, or possibly make it worse?

The second line of inquiry was to assess the impact of certification upon the *business performance* of participating SGP print facilities. Modifying production processes, material sourcing, handling of waste byproducts, employee well-being, etc. imply costs, and of course, increased costs reduce profitability. Or does the process ultimately reduce costs? No one really knew. Many print executives, who are under enormous pressure to be profitable, generally consider anything that adds cost a bad thing. Does SGP certification lead to higher costs, and thus lower profitability, or even erase it? Again, there is speculation on the subject but no evidence to confirm, or disconfirm, the hypothesis. Therefore, the second focus of the study was to answer the question, does pursuit of green/sustainable printing cause the business to suffer, succeed, or make no difference?

Finally, there is no formal feedback from those facilities that have undergone certification to assess the process. Are there challenges that are not being recognized? Is the process too difficult? At the end of the process, is it worthwhile? No one really knew. A lot of anecdotal evidence existed, but how reliable is it? Again, more questions than answers. Therefore the third line of inquiry was to obtain feedback from the participants – those who have undergone the process and been certified – and get answers to the *implementation process* associated with SGP certification. Does the current process inherently impede certification, or does it enable success?

Research Design – Survey Collection/Administration

Among the tasks necessary for undertaking a research study is determining the sampling approach. However, given the relatively small number of SGP certified print facilities (57) the decision was made to survey the entire population rather than select a sample.

In order to enhance the response rate survey participants were informed that they would be granted confidentiality and anonymity of response. In addition, inspection of individual responses and data analysis would be handled by an independent third party, Dr. George B. Glisan, Reese Distinguished Professor in the Graphic Arts and Imaging Technology program of Appalachian State University.

Another known aspect for facilitating response rate is to construct the questionnaire so that the response task is easily understood and thus completed in a relatively short period of time. Respondents to questionnaires have priorities to their employers and responding to a survey seldom rises to the top of the list. Creating response tasks that are relatively simple and take a reasonably short amount of time enhances response rate. Accordingly, the total number of

questions was limited to 15. In addition, the response task to each question was structured for ease of response. For questions about environmental and business metrics the response options were structured as ordinal level measures (e.g., higher, lower, no difference). In this manner no exact numbers would have to be retrieved by respondents in order to answer the question, and responses could be provided quickly. Other questions were designed in such a manner that response choices were highly structured easing task completion and shortening time spent with the survey.

Another decision that must be made regarding a survey is the method of distribution of the questionnaire. Electronic distribution was chosen as the method to disseminate the survey. SGP had the email address of each facility's Sustainability Coordinator (per the Sustainability Management System 3.1.2.2), and the Coordinator was deemed to be the best person to answer the questions presented in the survey. In addition, it would be relatively easy for respondents to complete the task quickly and also return responses quickly.

A total of 57 surveys were sent to the Sustainability Coordinators of SGP certified facilities. A total of 31 surveys were returned by participating respondents on April 13, 2015. All 31 were usable, however, as is normal some respondents declined to answer certain questions (number of employees and size of revenues were the most common omitted, which did not impair the analysis and findings). With a total of 31 usable surveys that were returned and usable yielded a response rate of just over 54%.

Research Design – Data Analysis

Given the exploratory nature of the research undertaking, as well as the questionnaire design, the data analysis performed was descriptive. There was no requirement to engage in experimental research designs or advanced multivariate data analyses. There were too many unknowns to consider more complex approaches to this research study. That said, appropriate use of descriptive data analysis may yield results that are significant and actionable.

One question that enables, or constrains, any data analysis to yield significant and actionable results is the extent to which a survey's respondents are representative of the population. In the case of this study care was taken to address this question before the questionnaire was distributed. With a response rate slightly above 50% the likelihood is very good that the sample is reflective of the population, but that is not sufficient to make generalizable conclusions to the population (in this case all SGP certified print facilities) from the sample.

While the excellent response rate is encouraging, it is desirable to have a parameter of the population with which to compare the sample. By comparing a given parameter's results for the sample to the same parameter for the population it is possible to determine if the sample is, or is not, representative of that population. In the case of this survey of SGP certified facilities such a

parameter was asked, the year in which each participating facility was certified. Using that data it was then tested against the population (furnished by SGP) via a goodness of fit statistical test. The result of the calculation was, where $DF = 7$, the computed Chi-square statistic = 50.34, and that $P = 1$. The latter (where $P = 1$) means that we can be certain the sample is representative of the population. In turn, this indicates that the findings of the survey can be approached with confidence that they are representative of the population of all SGP certified printers.

The following pages present the findings of the data analysis. The analysis is grouped into three sections; Environmental Metrics, Business Metrics, and Implementation Findings. Following the data analysis is a final section on Implications of Findings.

Environmental Metrics Findings

Introduction

Central to the mission of SGP is its commitment to the environment. Therefore, the primary focus of this research study was to examine the environmental performances of print manufacturing facilities after they received certification by SGP. Did, in fact, SGP certification lead to better or worse outcomes for critical environmental factors, or was there no difference prior to certification? Thus, the number one research goal of this study was to confirm (or disconfirm) that print manufacturing organizations improve their environmental performance following certification by the Sustainable Green Printing Partnership.

To assess the impact of certification upon printers' environmental performance the survey assessed a total of eight (8) environmental metrics. Each responding organization was provided four options in responding to each metric. The first option was that the given metric was "Higher" after certification, indicating there was more of it. The second option was that the metric was "Lower", indicating there was less of it. The third option was that there was "No Difference" after certification compared to beforehand. Finally, if the respondent did not know the answer then "Don't Know" could be selected (a rare occurrence).

The eight environmental metrics assessed are fundamental to the SGP certification process. Four of the metrics assessed focus on harmful emissions and waste impacts: VOC Emissions, HAP Emissions, Volume of Hazardous Waste Generation, and Volume and Pollutant Loading of Wastewater Discharges. Two of the eight metrics focus on resource consumption: Energy Consumption and Water Consumption. The remaining two metrics address recycling and landfill volumes: Volume of Materials Recycled, Volume of Materials Landfilled. In sum, the combination of these eight metrics represents key benchmarks of environmental performance in the SGP certification process.

The data analysis task was to determine which, if any, of the environmental metrics demonstrated better, worse, or no difference, in outcome following certification. In order to do this two analyses were performed. First, the raw proportions were calculated for each of the response categories. That is, proportions for responses to each of the three choices ("Higher", "Lower", or "No Difference") for each metric. These proportions are presented in the discussion below as well as in a summary chart following the discussion.

The second analysis calculated a ratio of favorable to unfavorable responses. For this analysis the "No Difference" responses were ignored, as they were neither favorable nor unfavorable. For example, a "Higher" volume of materials recycled would be a favorable outcome than would be a "Lower" volume. Thus, if the proportion of "Higher" responses for volume of materials

recycled was 30% and the proportion of “Lower” responses was 15% then the ratio of would be expressed as 2.00 times. That is, the proportion of survey responses indicating that their volume of materials recycled was 2.00 times “Higher” than the survey responses of those that were “Lower”. Conversely, if 30% of respondents indicated that their recycling volume was “Lower”, while 20% reported they were “Higher”, then this would be an unfavorable outcome. Thus, the ratio would be expressed as (1.5 times), the brackets indicating an unfavorable outcome. Finally, some outcomes are favorable if they are “Lower” (for example, VOC and HAP emissions). In such instances the ratio is expressed as a multiple of the “Lower” responses to those of the “Higher” responses, and without brackets, since it is a favorable outcome. The summary chart indicates notes which outcomes are favorable.

Emissions/Waste Volumes

For each of the four metrics in this group respondents were asked to indicate if their firms’ had achieved “Lower”, “Higher” or “No Difference” in harmful emissions/waste volumes since certification. For VOC emissions 64% of respondents indicated they were “Lower” since certification, 36% reported “No Difference”, and none reported “Higher”. Since there were no “Higher” responses a ratio could not be calculated. Responses to the three remaining emissions/waste volume items were fairly uniform. For HAP Emissions, Volume of Hazardous Waste Generation, and Volume of Pollutant Loading of Wastewater Discharges the responses were 44%, 48% and 46%, respectively, that these metrics were “Lower” since certification. The balance of respondents, at 56%, 52% and 54% respectively, reported that for each of these metrics there was “No Difference” since certification. Again, no respondent indicated any of these metrics were “Higher” after certification. Accordingly, no ratio could be computed due to zero respondents reporting emissions/waste volumes were “Higher”.

While slightly more than half of respondents indicated “No Difference” since certification for three of these four environmental metrics, the fact that a substantial number of companies indicated “Lower” emissions/waste, provide a strong argument that SGP certification made an impact on reduction of emissions and waste. Equally importantly, no respondent indicated Emissions/Waste volumes that were “Higher”. In sum, this is a remarkable finding.

Energy/Water Consumption

As above, respondents were asked to indicate if they had experienced “Lower”, “Higher” or “No Difference” with respect to their consumption of energy and consumption of water since SGP certification had been achieved. Fifty-eight percent of respondents (58%) reported that their Energy Consumption was “Lower”, while 38% reported “No Difference”, and 4% reported that it was “Higher” since becoming certified. Since “Lower” energy consumption is a favorable

outcome, its ratio to “Higher” energy consumption was 14.5 times greater. Water Consumption was split equally with 48% indicating it was “Lower” and 48% indicating there was “No Difference”. The balance, at 4%, reported “Higher” consumption of water. The ratio of those reporting “Lower” water consumption to those reporting “Higher” consumption was 12.0 times. On the whole, with nearly half or slightly more than half of respondents indicating consumption of water and energy had been reduced, the impact of the SGP certification process upon printing companies’ consumption of these resources is favorable to the environment, and again, an indicator of the impact of SGP certification.

Materials Recycled/Landfilled

Another component of the environmental metrics assessed focused on the subject of materials, and specifically those materials recycled versus those landfilled. The goal of SGP is to encourage practices that lead to greater recycling of materials, and correspondingly, a reduction of materials sent to landfills. Respondents, when asked about the Volume of Materials Recycled, reported 62% “Higher” recycling volumes since SGP certification, while 7% reported recycling volume was “Lower”. The remainder, 38%, reported “No Difference” in recycled volume. The ratio of “Higher” to “Lower” respondents for this metric was 8.8 times. Again, this is a substantial difference and evidence of the positive impact of SGP certification.

A companion question inquired about the Volume of Materials Landfilled. Respondents reported 71% “Lower” volumes being directed to landfills, while 4% reported that their volume was “Higher”. The balance of respondents, 25%, reported that their volume of materials landfilled was “No Difference”. Because the favorable response for this metric is “Lower”, the ratio for this metric is reversed. Thus, the ratio of “Lower” volume of landfilled materials is 17.75 times greater than respondents who reported “Higher” volumes.

Discussion

The foregoing findings have several implications. First, these findings are clear. It is now confirmed that the Sustainable Green Printing Partnership has a favorable impact on environmental performance. Or, put another way, printing organizations who submit to the SGP certification process improve their ability to protect/promote the environment. Second, in light of the responses from participating certified print facilities, SGP certification makes a demonstrable and favorable contribution to all eight environmental metrics assessed, not some or even most, but all. The third implication is that the SGP Partnership, with confidence, can promote itself to the entire print community as an organization that provides a road map to sustainability workable and delivers achievable results.

In turn, this leads to a fourth implication. All who know this industry well also know that there are thousands of print manufacturing facilities in North America. Additionally, the relatively few (57) print facilities that have thus far achieved SGP certification most likely were early adopters of sustainable/green printing processes before pursuing certification. Or put another way, it is very likely that these 57 facilities were on the leading edge of sustainable practices prior to pursuing SGP certification. Yet, many of these early adopters of environmentally sensitive practices were able to significantly improve their environmental performance. Therefore, it is reasonable to advance the notion that later adopters of SGP certification, who are less likely to have adopted sustainable/green practices of the early adopters, will achieve even greater improvement in environmental performance.

A final note, to assist the reader, the following pages contain bar charts of each environmental metric presented in the foregoing discussion. In addition, there is a page with a summary chart that presents the respective numerical percentages of “Higher”/”Lower”/”No Difference” responses for all of the environmental metrics assessed, accompanied by a column that indicates the ratio of “Higher” to “Lower” (or, as the case may be, “Lower” to “Higher”) responses.

Environmental Metrics Summary

	“Lower”	“ND”*	“Higher”	Ratio**
<u>Emissions/Waste Findings</u>				
VOC	64%	36%	0%	-0-
HAP	44%	56%	0%	-0-
Vol. hazardous waste generated	48%	52%	0%	-0-
Vol. & pollutant loading discharge	46%	54%	0%	-0-
<u>Energy/Water Consumption</u>				
Energy consumption	58%	38%	4%	14.5x
Water consumption	48%	48%	4%	12.00x
<u>Materials Recycled/Landfilled</u>				
Vol. of materials recycled***	7%	31%	62%	8.86x
Vol. of materials landfilled	71%	25%	4%	17.75x

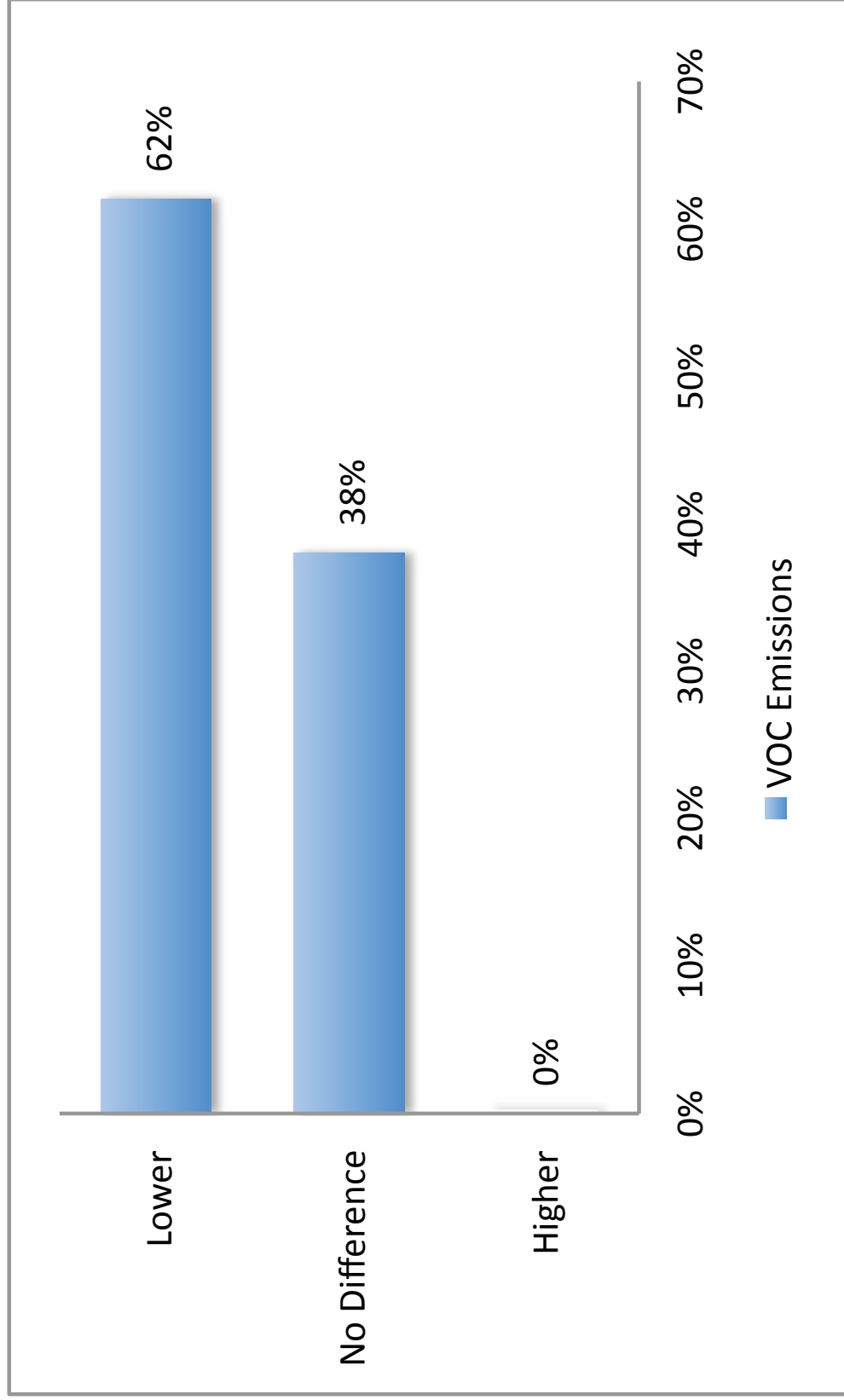
* “ND” represents proportion of “No Difference” responses

** Ratio is relationship between favorable metrics as a multiple of unfavorable metrics; the “Higher” item percentages are divided by “Lower” percentage items, except for those indicated by ***

*** For this item the “Lower” item is favorable, and the “Higher” item is the unfavorable metric; therefore the “Lower” item percentage is expressed as a multiple of the “Higher” item percentage

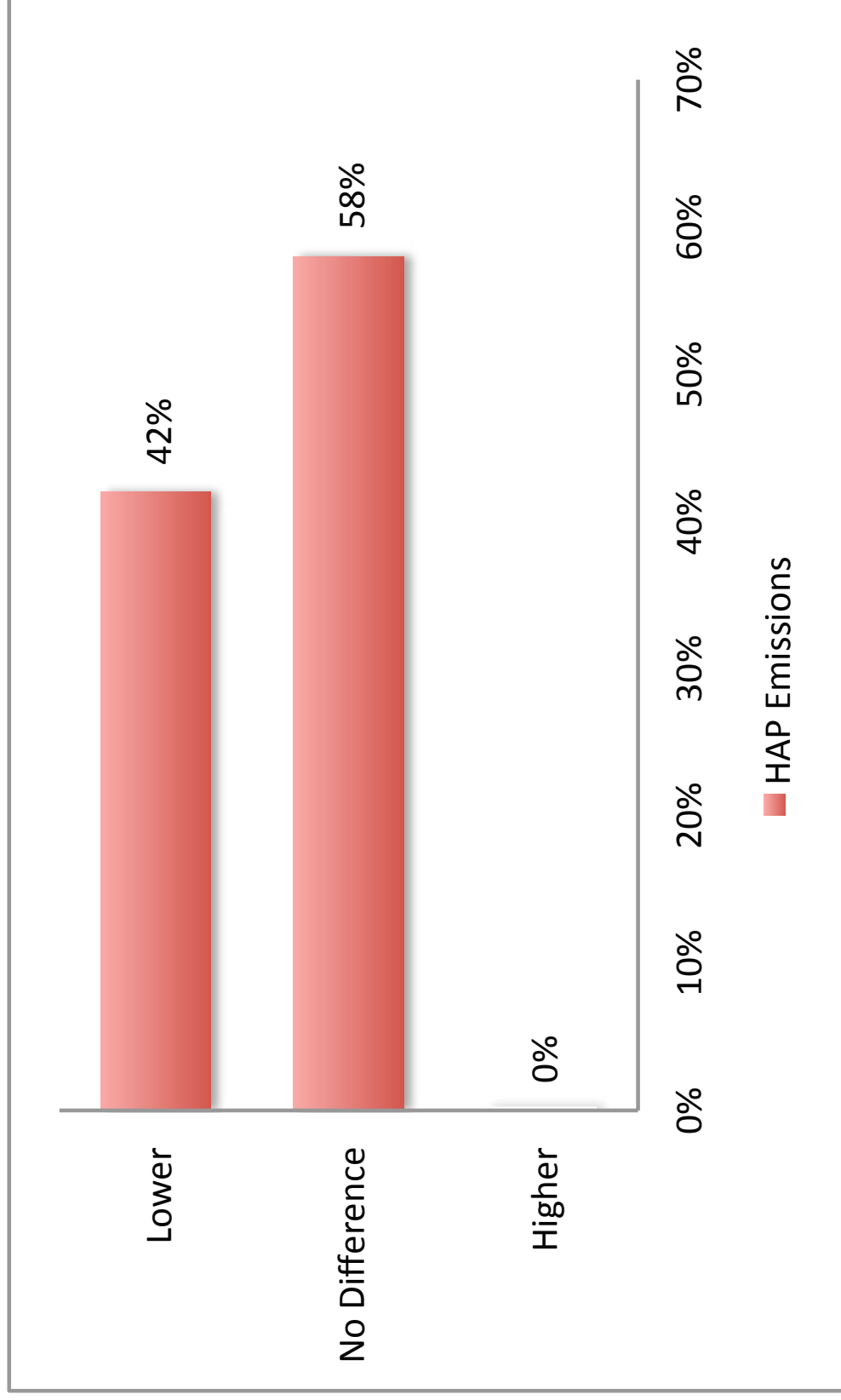
Environmental Metrics

VOC Emissions

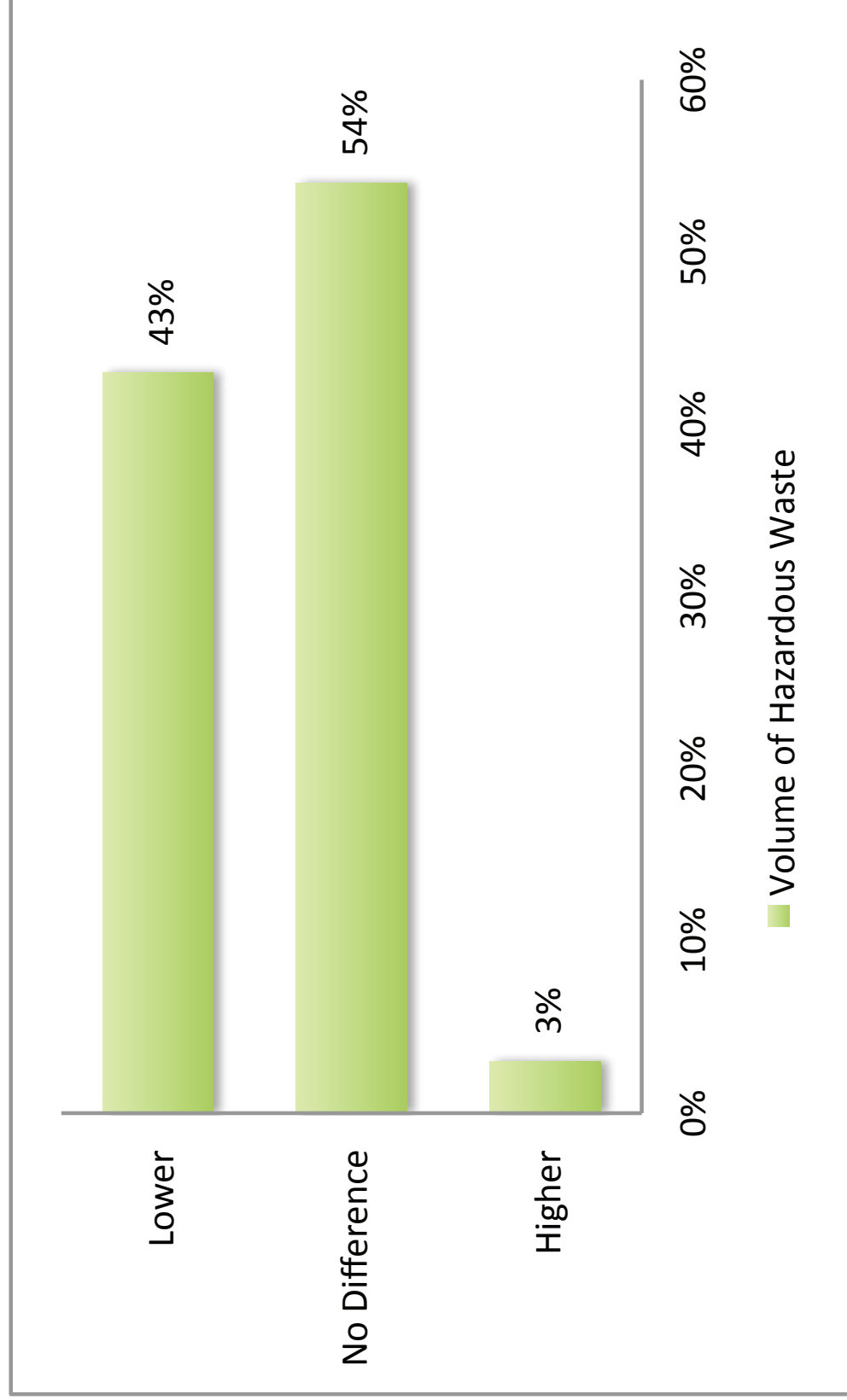


Environmental Metrics

HAP Emissions

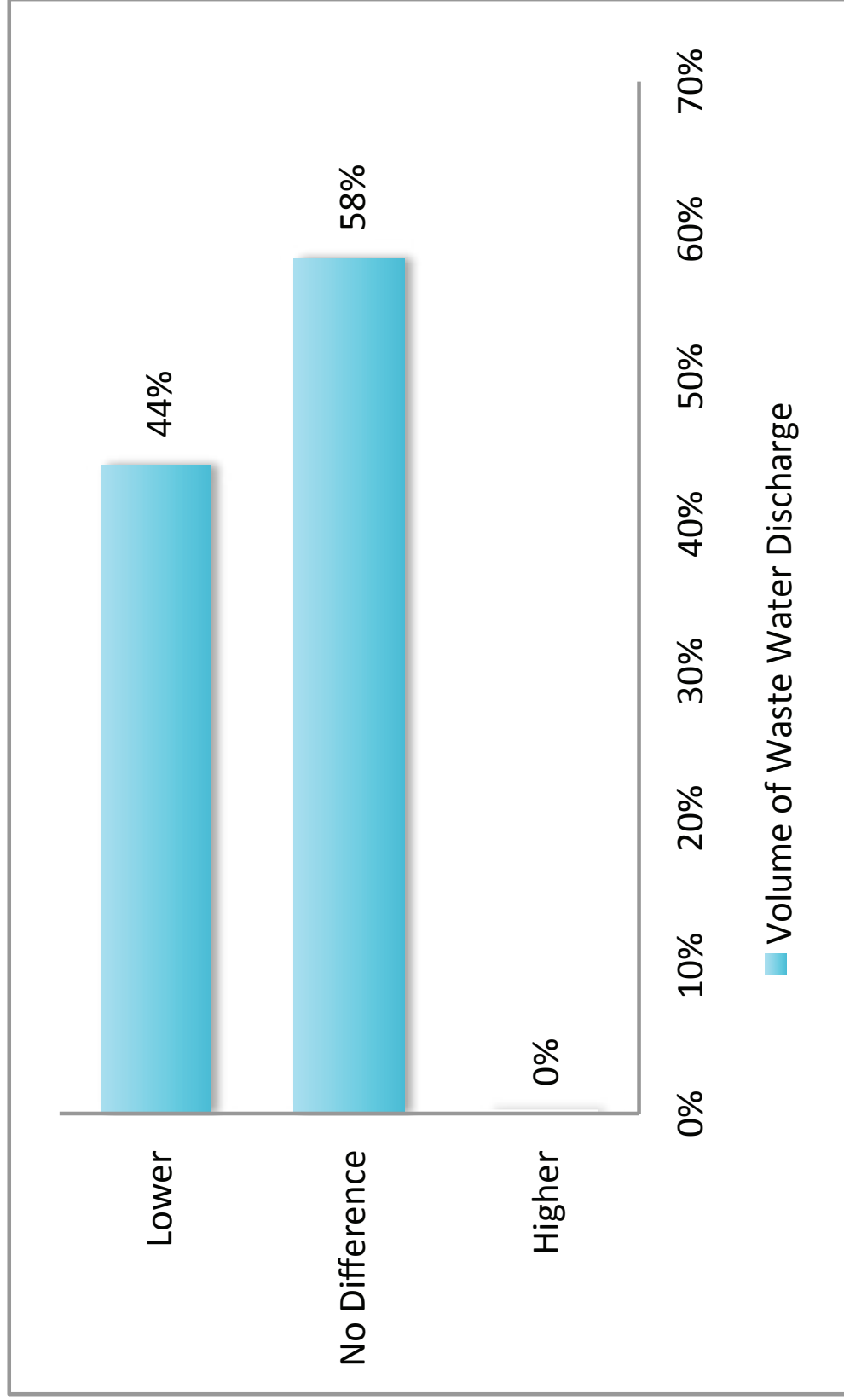


Environmental Metrics
 Volume of Hazardous Waste



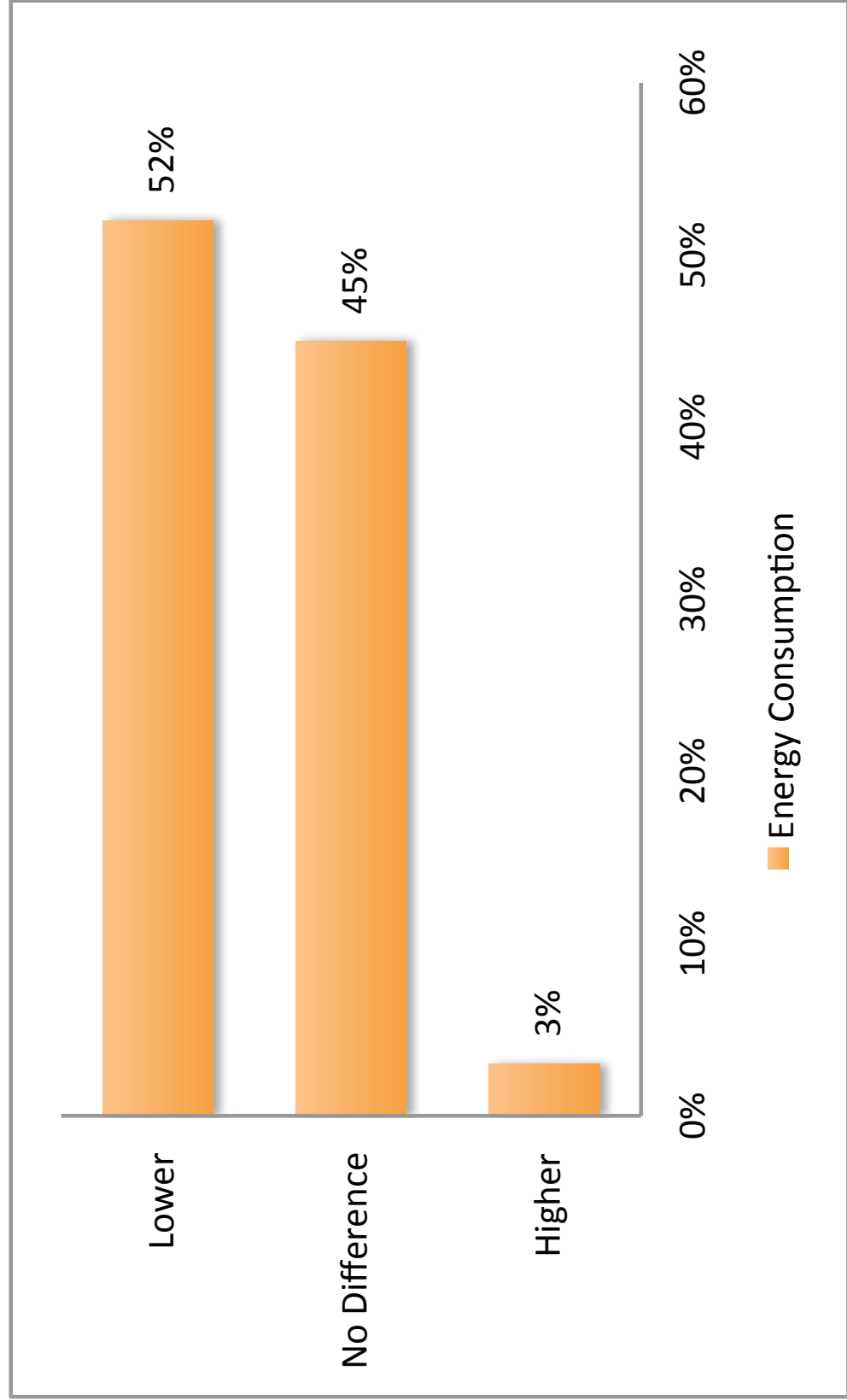
Environmental Metrics

Volume of Waste Water Discharge

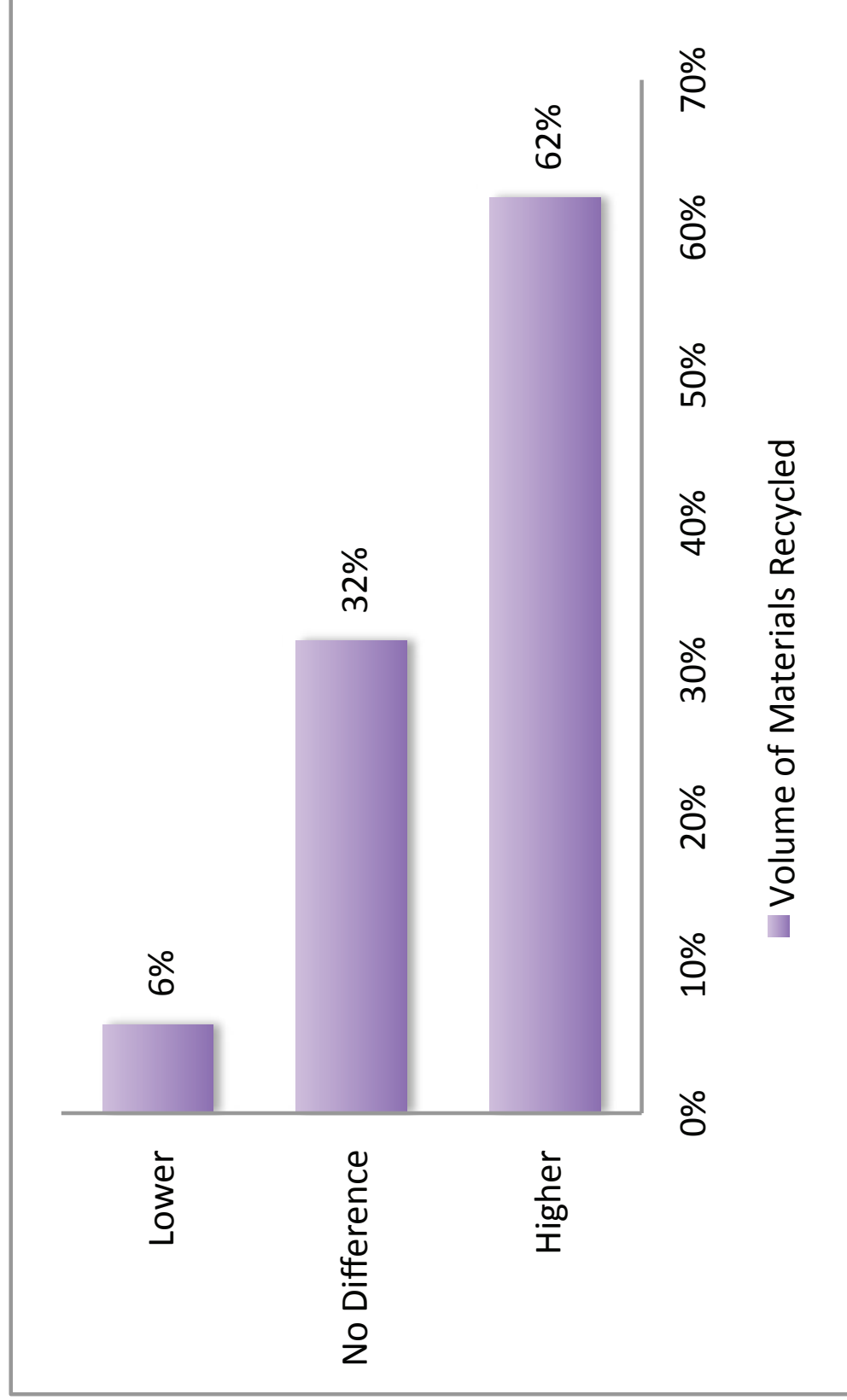


Environmental Metrics

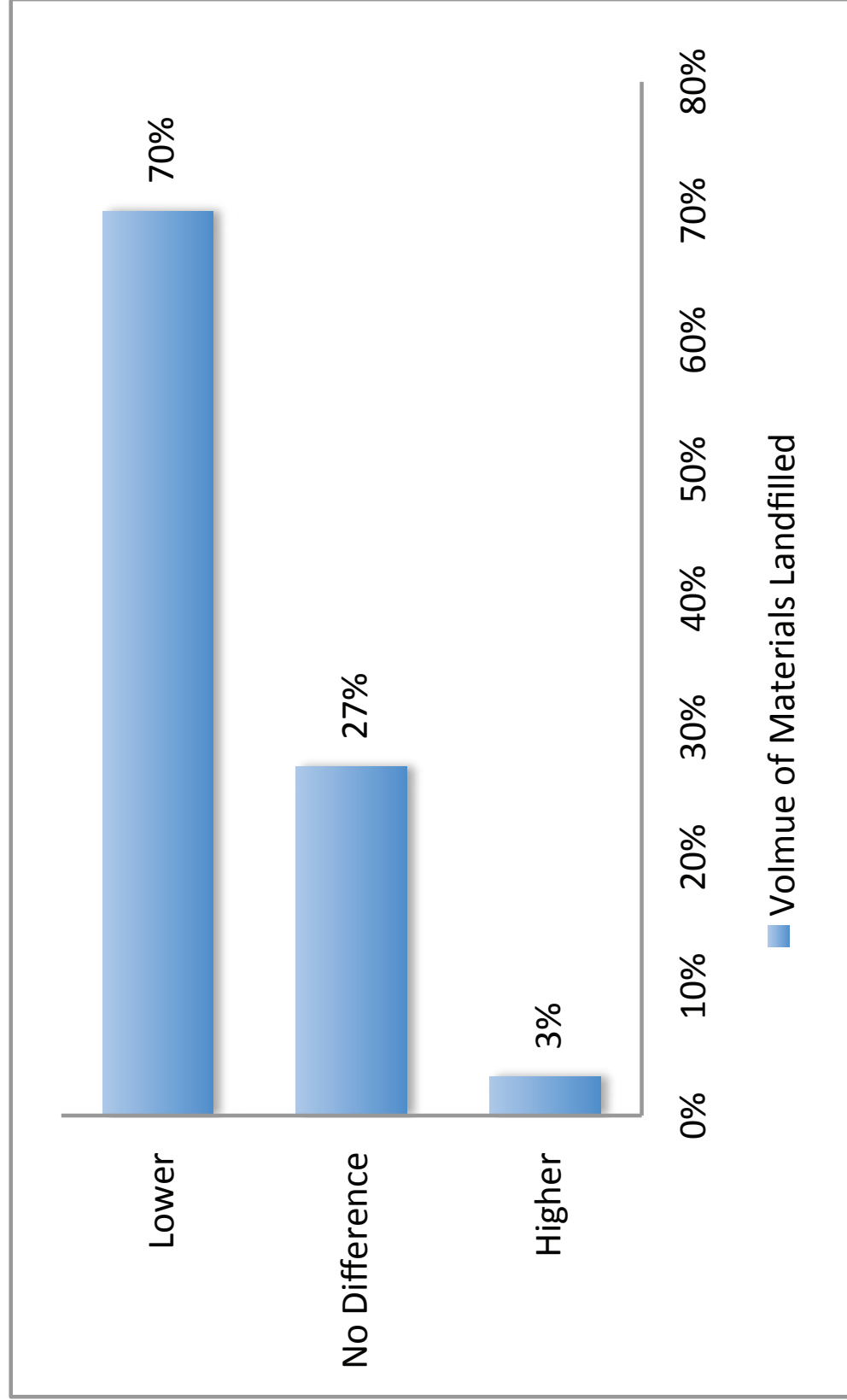
Energy Consumption



Environmental Metrics
Volume of Materials Recycled

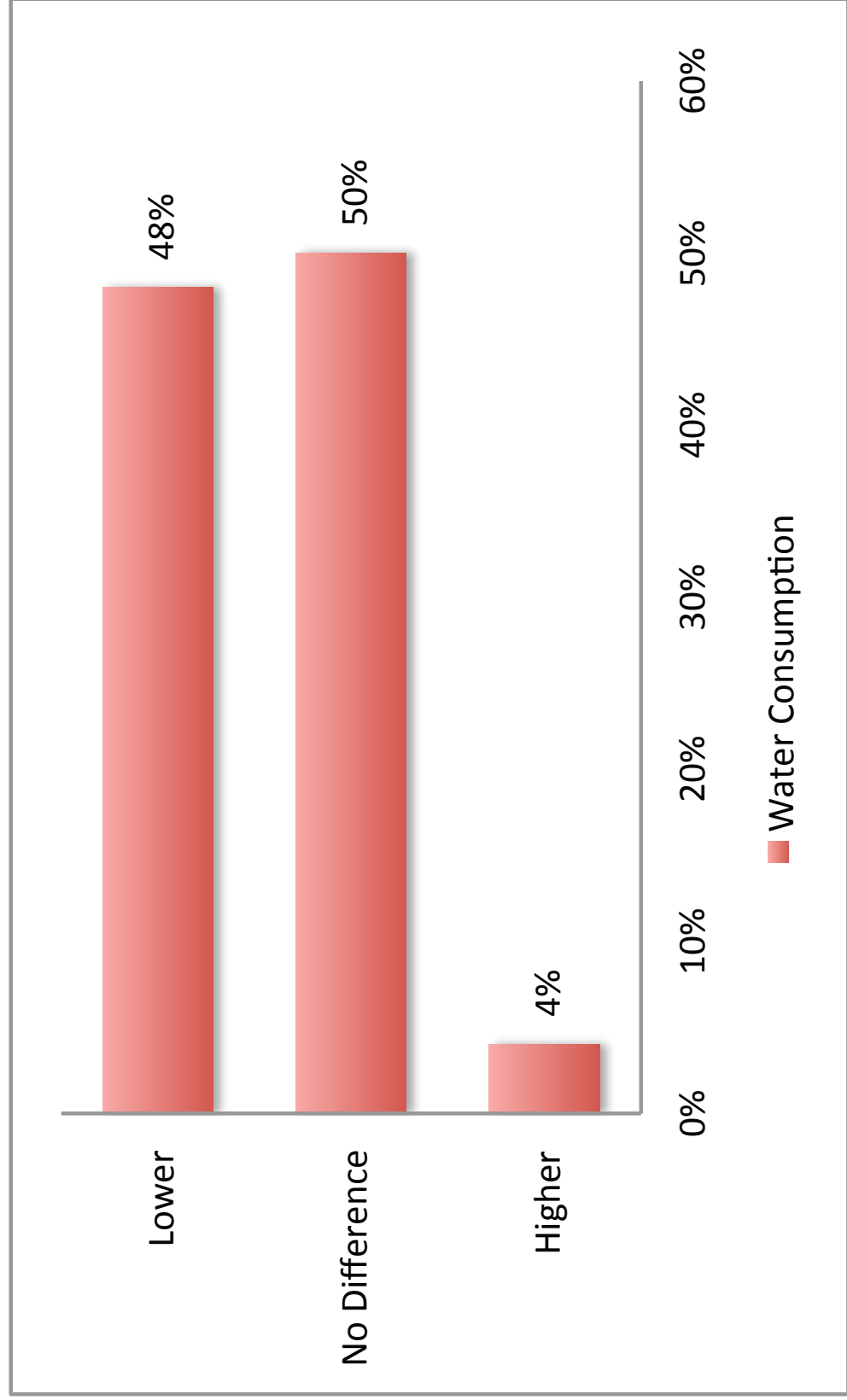


Environmental Metrics
 Volume of Materials Landfilled



Environmental Metrics

Water Consumption



Business Metrics Findings

Introduction

The previous section sought to assess the viability of the SGP certification process as a tool for guiding print manufacturing facilities to improve and sustain their environmental performance. The SGP certification criteria use many business management terms, phrases and processes in describing how an organization should go about the task of meeting its multiple environmental goals as a certified facility. Nowhere, however, is there any mention of establishing or meeting specific business goals or objectives. For example, there is nothing about sales revenue, new client acquisition, costs, profits, etc. Additionally, SGP makes no claims that becoming a certified manufacturer of printed materials will enable participants to be more or less successful at meeting traditional business objectives (e. g., sales, profit, etc.).

The foregoing, of course, is at it should be. Just as increasing revenues, lowering costs, meeting profit goals, etc. will not necessarily lead you to becoming a green and sustainable business, the reverse isn't necessarily true either. However, whether a business succeeds or suffers due to its pursuit of sustainability is a legitimate question. Indeed, a statement that has been heard more than once from senior managers of print manufacturing organizations is, "I can't afford to become a green/sustainable manufacturer."

So, do manufacturing facilities certified by SGP succeed, or suffer, when judged by traditional business measures? That central question was the second research objective of this study. In order to assess that question a series of eight business metrics was incorporated into the survey: Sales Revenue, New Client Acquisition, Labor Costs, Material Costs, Operating Costs, Number of Worker Compensation Claims, Average Cost of Worker Compensation Claims, and Profit Margin. Respondents were asked to assess each of these metrics using the same choices utilized in the Environmental Metrics section of the survey ("Higher"/"Lower"/"No Difference"). Below is an examination of respondent answers to each of the aforementioned eight business metrics included in the survey.

The Top Line

Respondents were asked to indicate if they had observed a change in sales revenue since becoming a SGP certified facility using the aforementioned choices. Nearly two thirds (62%) of respondents indicated there was "No Difference" in revenue. Fifteen (15%) percent indicated that sales revenues were lower, while 23% reported they were higher. Given that higher sales revenue is a more favorable outcome than lower sales, the ratio of the higher versus lower sales responses was 1.53 times. Although the ratio of the higher sales group is greater than that of the

lower sales group, the safe conclusion that can be drawn from these numbers is that the most probable likelihood is that certification has little impact upon sales revenue. Or, put another way, obtaining SGP certification most likely will not harm sales, and if anything, may be as likely to benefit sales as not.

Related to the top line is New Client Acquisition. The most reported response, at 54%, was “No Difference”. However, 42% of respondents reported that new client acquisitions were “Higher” since certification, while 4% who reported they were “Lower”. Again, since this is a metric in which “Higher” is the favorable response and “Lower” is unfavorable, the resulting favorable to unfavorable ratio of 10.5 times. This is a very encouraging finding, and seemingly inconsistent with sales revenue, which did not show a similar response. A hard reality of the print sales wars is that there is a constant churn in the client base, with some companies experiencing an annual turnover of 15-20% of clients. As a result, the new client acquisition metric is entirely understandable in the day-to-day pursuit of new business, while not fully impacting the top line number of sales revenue.

Cost Categories

Three categories of cost were assessed; Labor Cost, Material Cost and Operating Cost. The purpose in examining cost is to assess the impact that SGP certification may have upon a firm’s financial performance. The first of these cost categories, labor, found that “No Difference” was the choice indicated by most (61%) of the respondents. The proportion of those reporting “Lower” labor costs (in this case the most favorable response) was 27%, and the “Higher” labor cost choice was indicated by 12% of respondents. The ratio of those reporting “Lower” labor costs to those reporting “Higher” costs was 2.25 times, a meaningful increase compared to the favorable/unfavorable ratio found with sales revenue. While an encouraging finding, the most likely outcome of achieving certification is there will be no difference in labor costs.

The second category of cost assessed was that of materials. Again, “No Difference” was the most reported choice by respondents, with just over half (55%) selecting this response. The proportion of those indicating “Lower” material cost was 30% versus 15% who reported this category of cost was “Higher”. Thus, the ratio of “Lower” to “Higher” (favorable to unfavorable) material cost was exactly 2.0 times. Again, this result is comparable to the labor cost ratio.

The final cost category examined was that operating cost. The most reported choice was “Lower”, with 44% of respondents indicating their operating cost was lower following certification. This was followed with 41% of respondents choosing “No Difference”. The balance, 15%, reported a “Higher” operating cost. That the greatest proportion of respondents indicated that operating cost was “Lower” rather than “No Difference” or “Higher” is a significant finding. While inconsistent with the reported numbers related to Labor and Material

costs, this possibly may be a result of respondents' uncertainty of the specific sub-categories of cost, whereas they did have a grasp that overall Operating Cost was lower. Regardless of the interpretation, the ratio of "Lower" to "Higher" (favorable to unfavorable) responses to the operating cost metric was 2.93 times, and was selected by the greatest number of respondents to the survey.

Worker Safety

Worker safety and well-being is a factor in SGP certification criteria, and was assessed via two business metrics, number of worker compensation claims and average dollar cost of those claims. The first of these, number of such claims, was reported as "Lower" by 21% of respondents, while 79% indicated "No Difference". No survey participant selected "Higher" as their organization's experience with number of worker compensation claims since certification. Given that worker safety and well-being is a criterion of the SGP certification process the combination of 21% stating that claims were "Lower" and none indicating "Higher" claim levels is an encouraging finding.

In addition to assessing number of claims reported by survey respondents was the average cost of those claims. A total of 20% reported average claims cost was "Lower" versus 4% who reported they were "Higher". As with a number of the other business metrics, "No Difference", was the highest chosen response, as reported by 76% of respondents. Four percent (4%) of respondents indicated that their organization's experience had been "Higher" claims cost. Accordingly, the ratio of "Lower" to "Higher" (favorable to unfavorable) claims cost was 5 to 1.

The Bottom Line

The final business metric is the one that may best sum up the presence, or absence, of an impact that SGP certification may have upon an organization's financial well-being. As was the norm for all but one of the business metrics, the most common response was "No Difference", as indicated by 50% of survey participants. Encouraging, however, was the 35% who indicated that profit margins were "Higher", while 15% reported "Lower" margins. This resulted in a favorable to unfavorable ratio of 2.33. Given that earlier reported findings with respect to labor cost, material cost and operating cost were all favorable this is a consistent, and encouraging, finding.

Discussion

The foregoing results are an encouraging finding that supports the proposition that achieving SGP certification does not adversely impact the business. On the contrary, certification may well result in a positive and favorable outcome. Or put another way, those executives who claim they “can’t afford to become a green/sustainable printing manufacturer,” are more likely than not to be wrong than correct. Of all the business metrics assessed the least favorable finding was that of Sales Revenue, which at a favorable to unfavorable ratio of 1.53 times was still positive. As many business executives will state, while they like to see growth in the top line it is the bottom line that most captures their attention. And the good news is this survey found that participating SGP firms’ profit margins were 2.33 times more likely to be higher than those who reported lower margins. Indeed, using the standard of the ratio of favorable to unfavorable outcomes for each of the business metrics, all were favorable.

A final note, to assist the reader, the following pages contains bar charts of each business metric presented in the foregoing discussion. In addition, there is a page with a summary chart that presents the respective numerical percentages of “Higher”/”Lower”/”No Difference” responses for all business metrics assessed, and includes a column that indicates the ratio of “Higher” to “Lower” responses.

Business Metrics Summary

	“Lower”	“ND”*	“Higher”	Ratio**
<u>Top Line Number</u>				
Sales Revenue	15%	62%	23%	1.53x
New Client Acquisition	4%	54%	42%	10.5x
<u>Cost Categories</u>				
Labor Cost***	27%	61%	12%	2.25x
Material Cost***	30%	55%	15%	2.00x
Operating Cost***	44%	41%	14%	2.93x
<u>Worker Safety</u>				
Number of Work Comp Claims	21%	79%	0%	-0-
Avg. Cost of Work Comp Claims	20%	76%	4%	5.00x
<u>The Bottom Line</u>				
Profit Margin	15%	50%	35%	2.33x

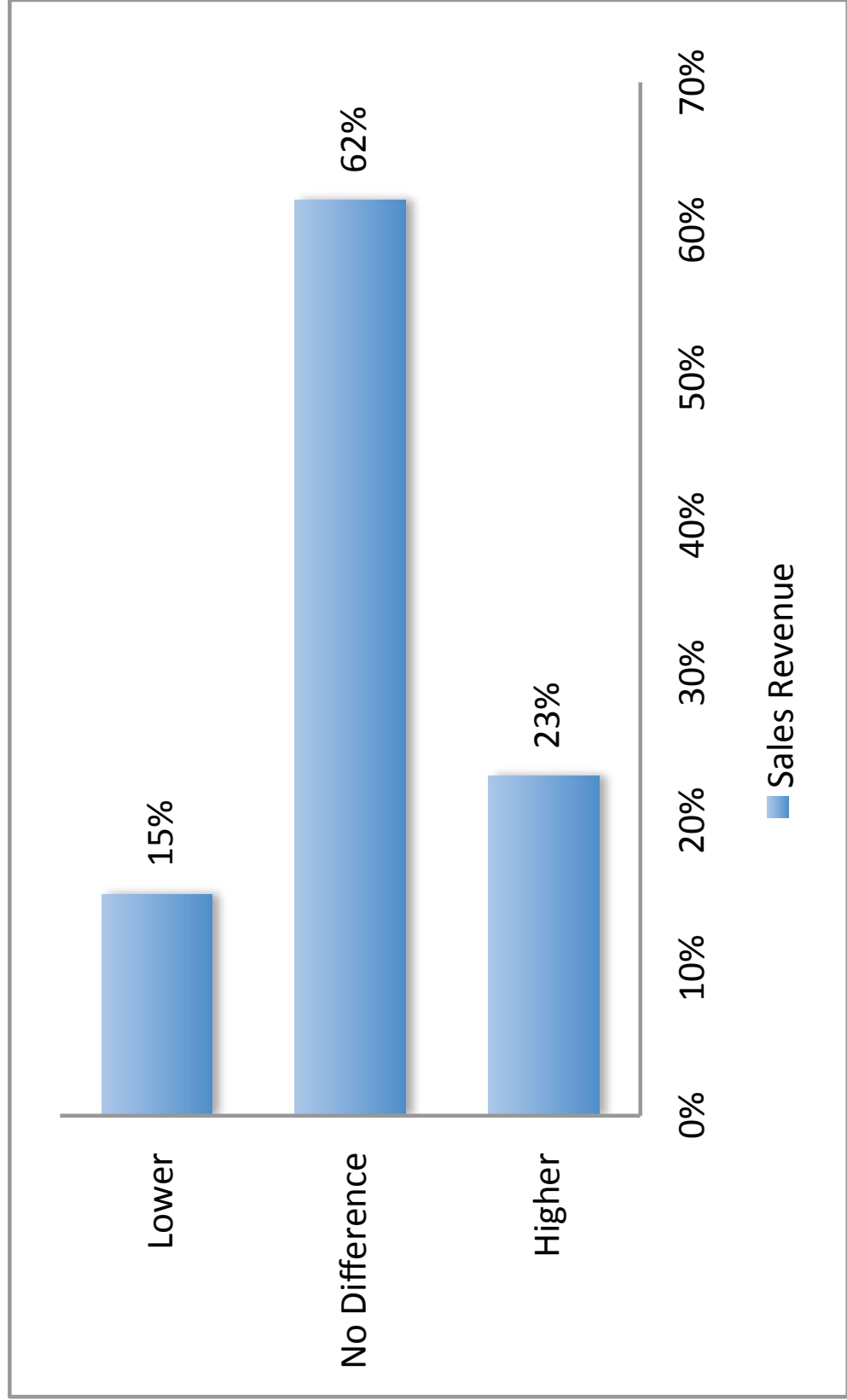
* “ND” represents proportion of “No Difference” responses

** Ratio is relationship between favorable metrics as a multiple of unfavorable metrics; the “Higher” item percentages are divided by “Lower” percentage items, except for those indicated by ***

*** For these items the “Lower” items are favorable, and the “Higher” are the unfavorable metric; therefore the “Lower” item percentages are expressed as a multiple of the “Higher” item percentages

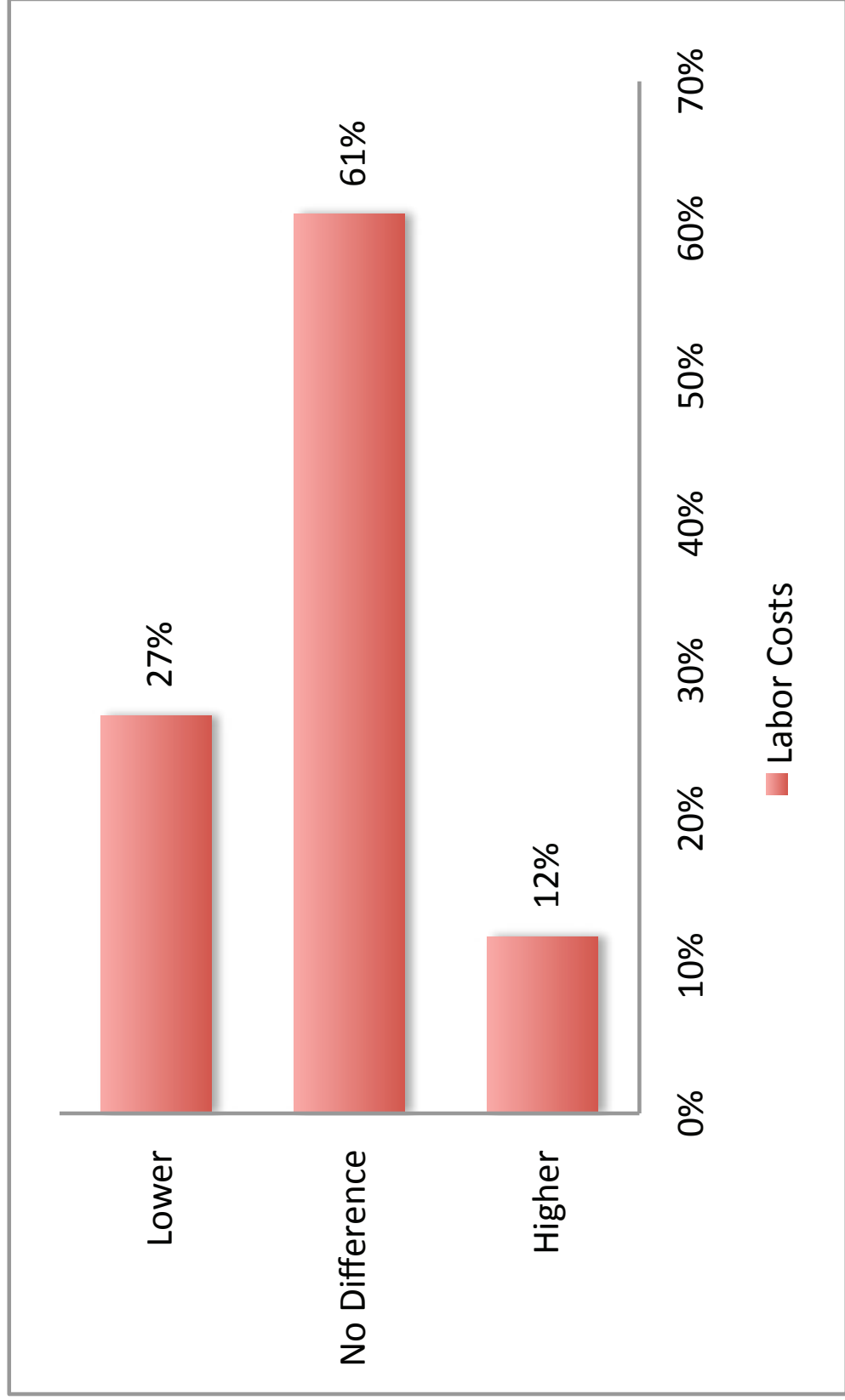
Business Metrics

Sales Revenue



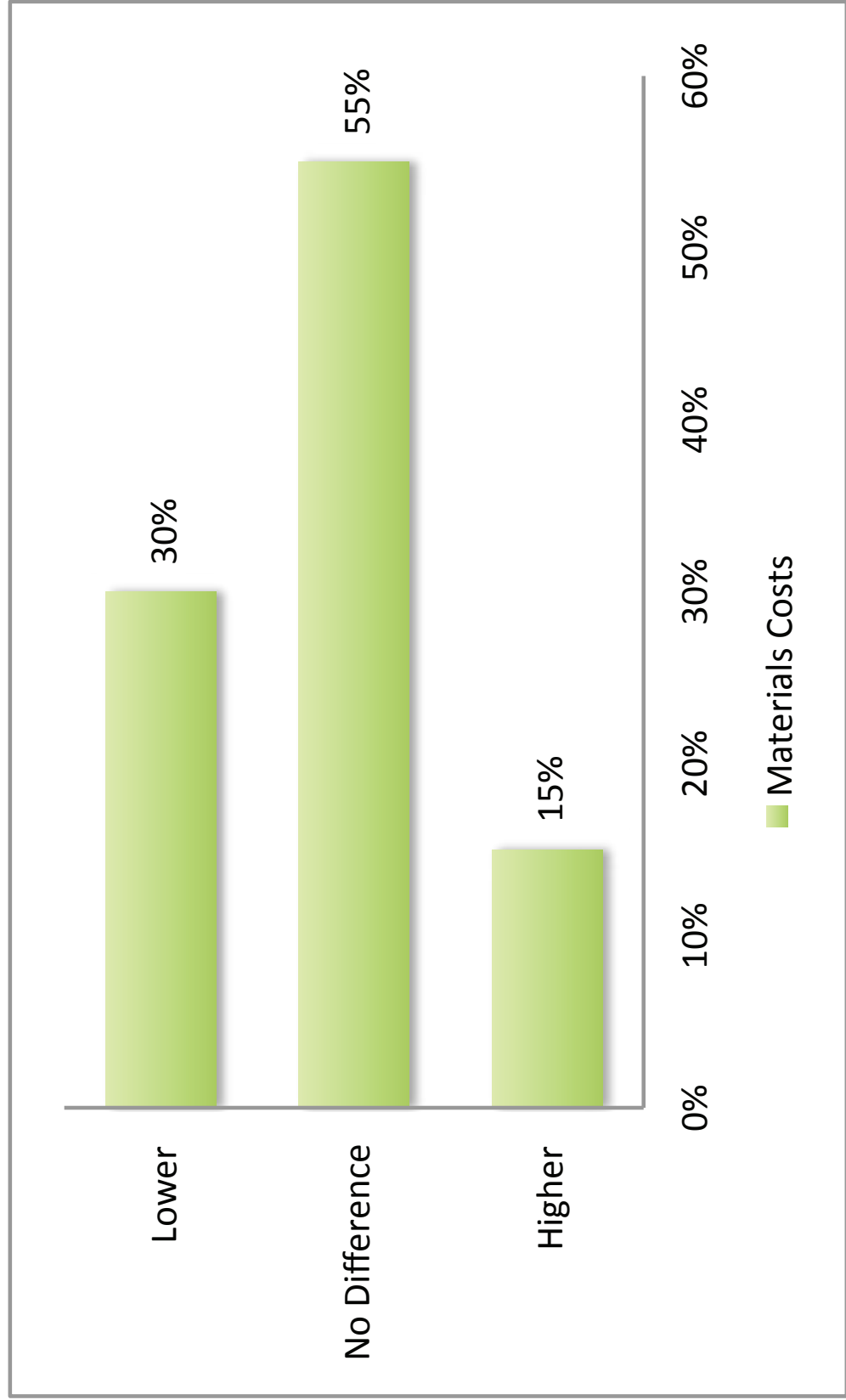
Business Metrics

Labor Costs



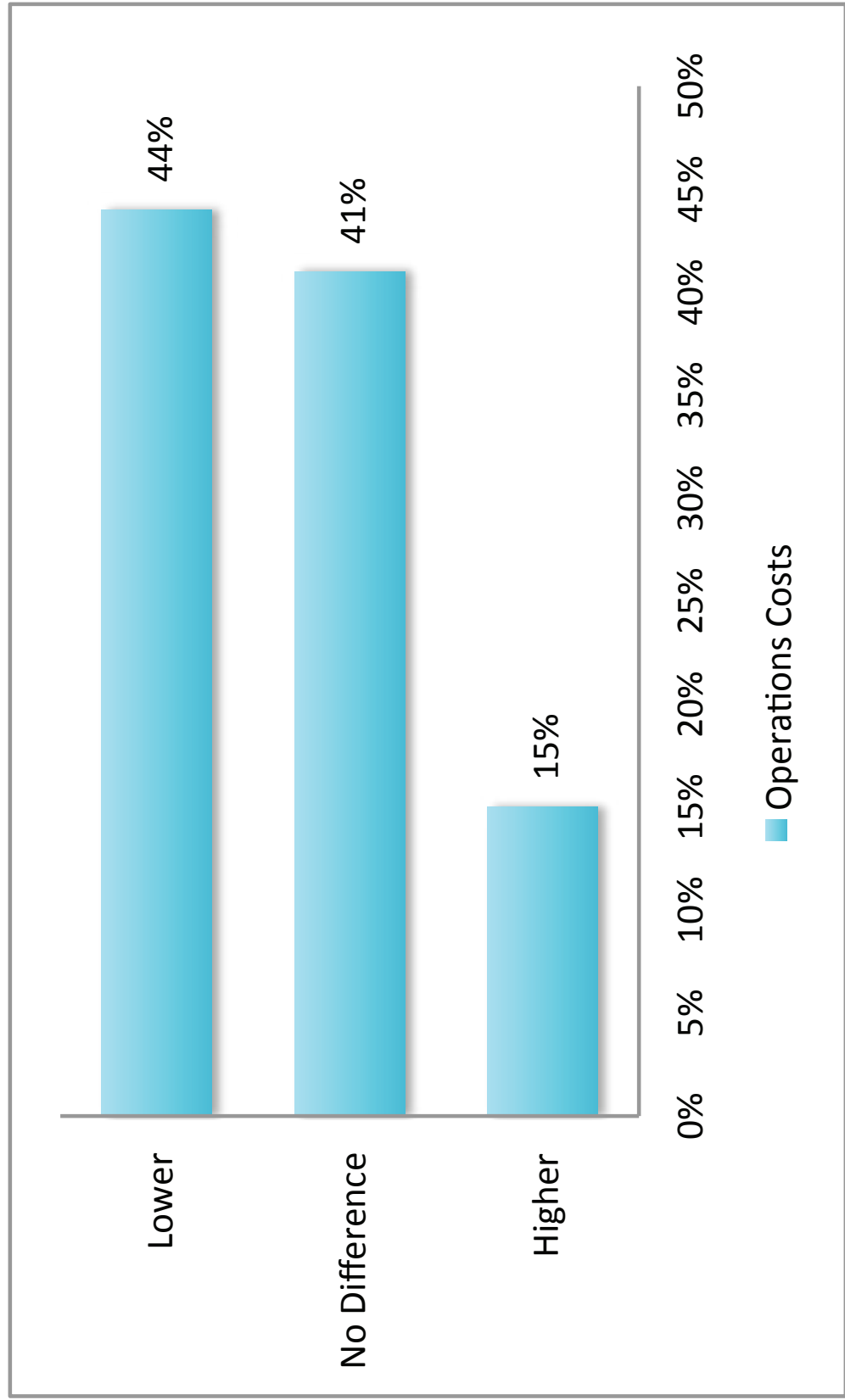
Business Metrics

Materials Costs



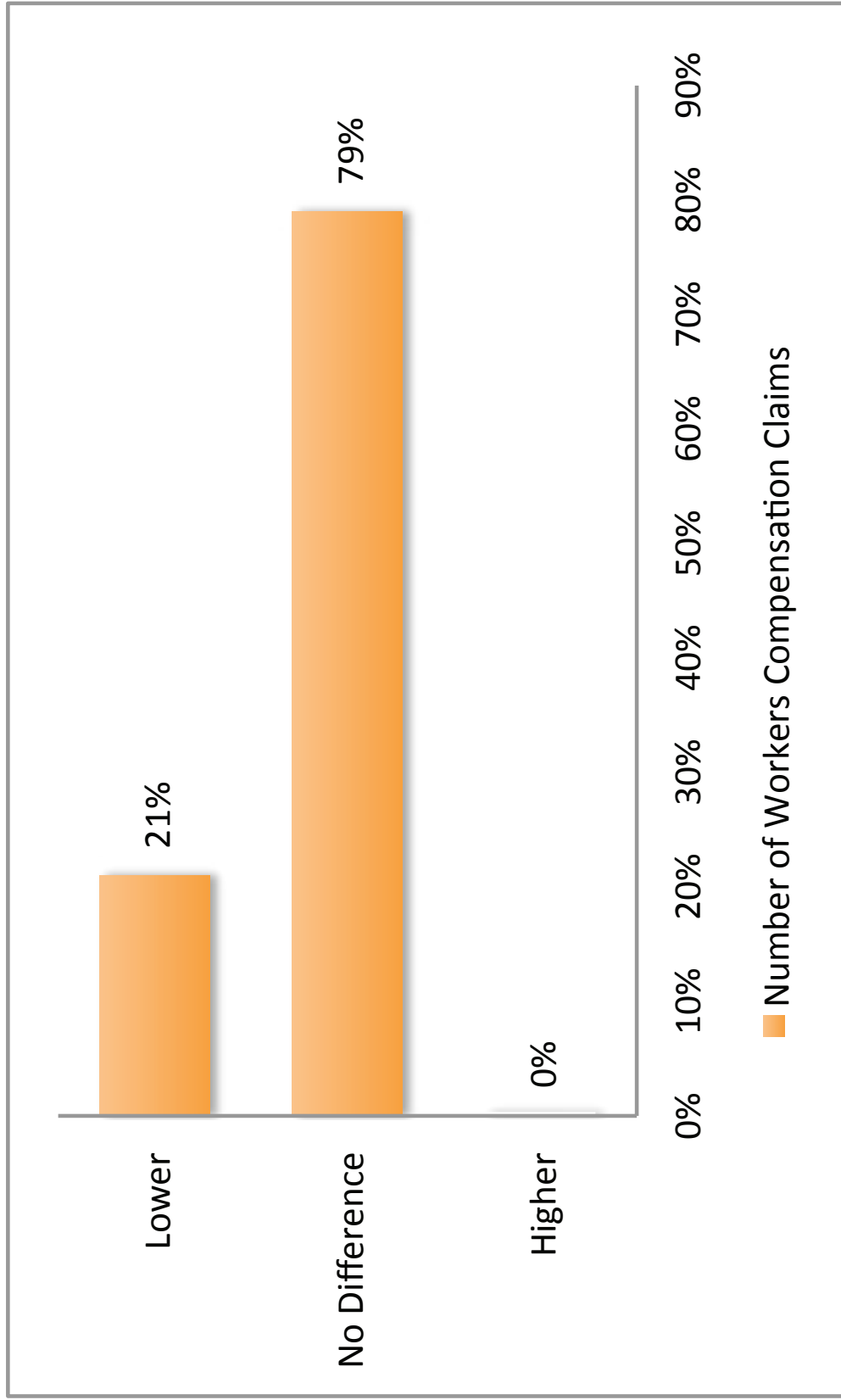
Business Metrics

Operating Costs



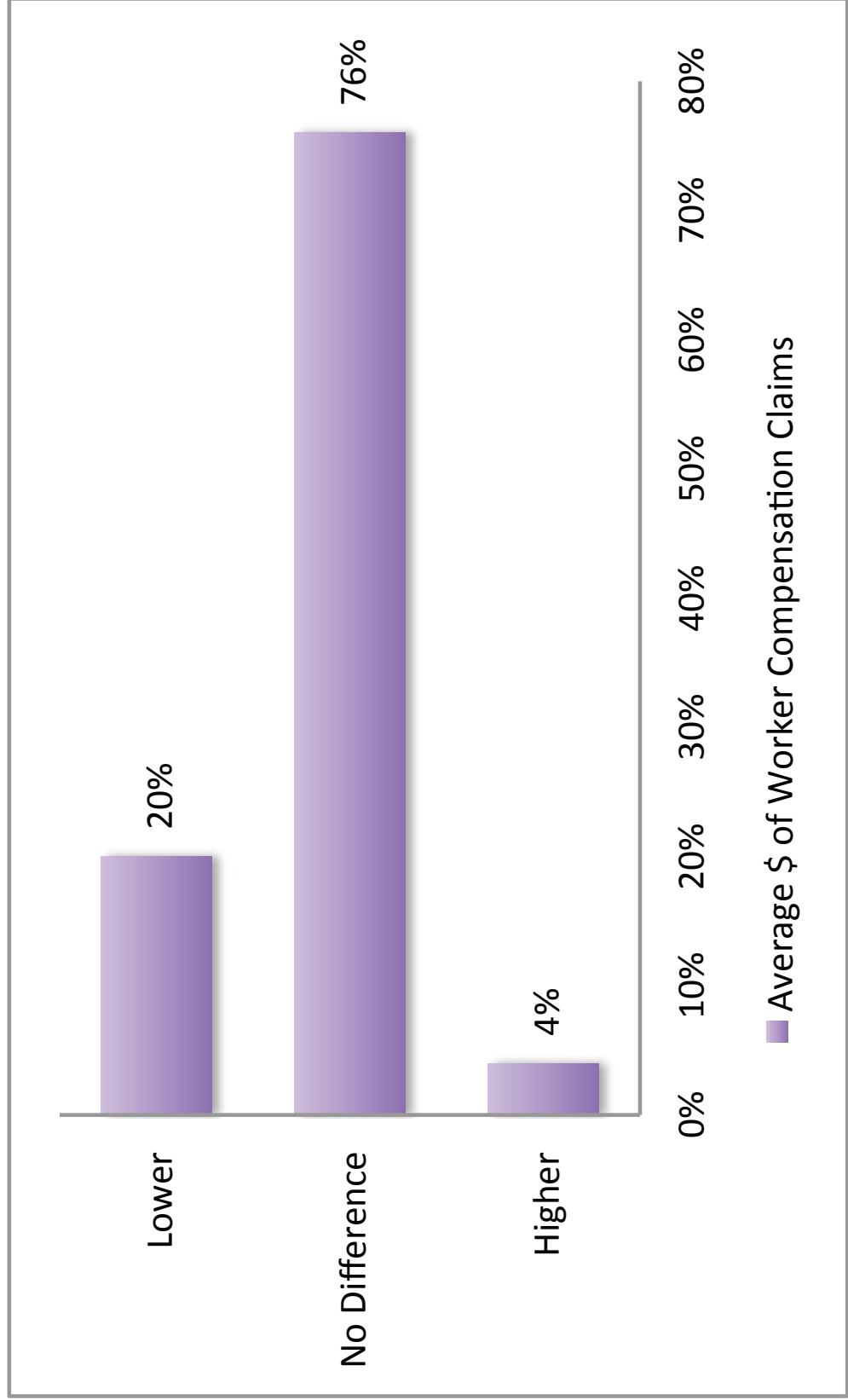
Business Metrics

Number of Workers Compensation Claims

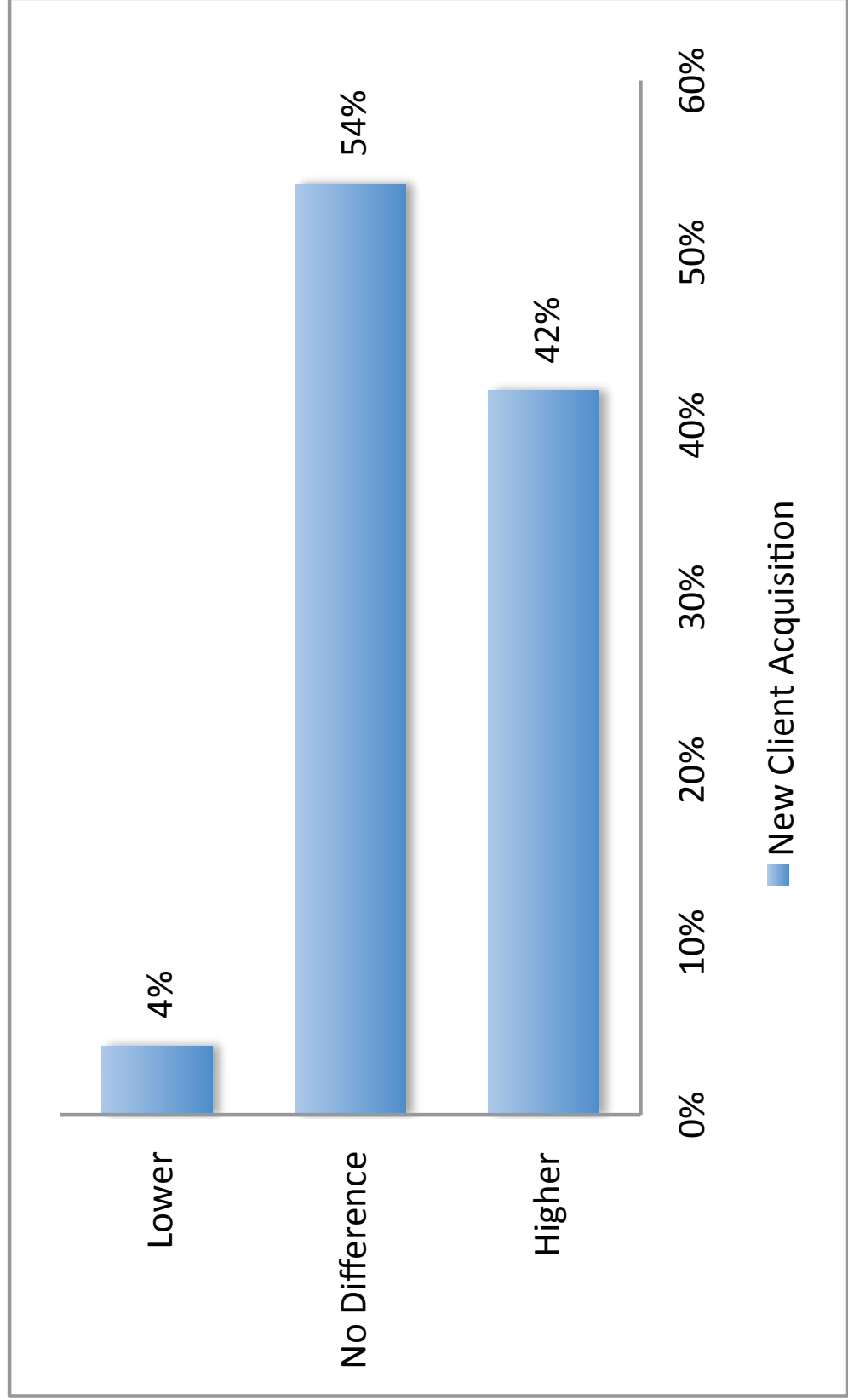


Business Metrics

Average \$ of Workers Compensation Claims

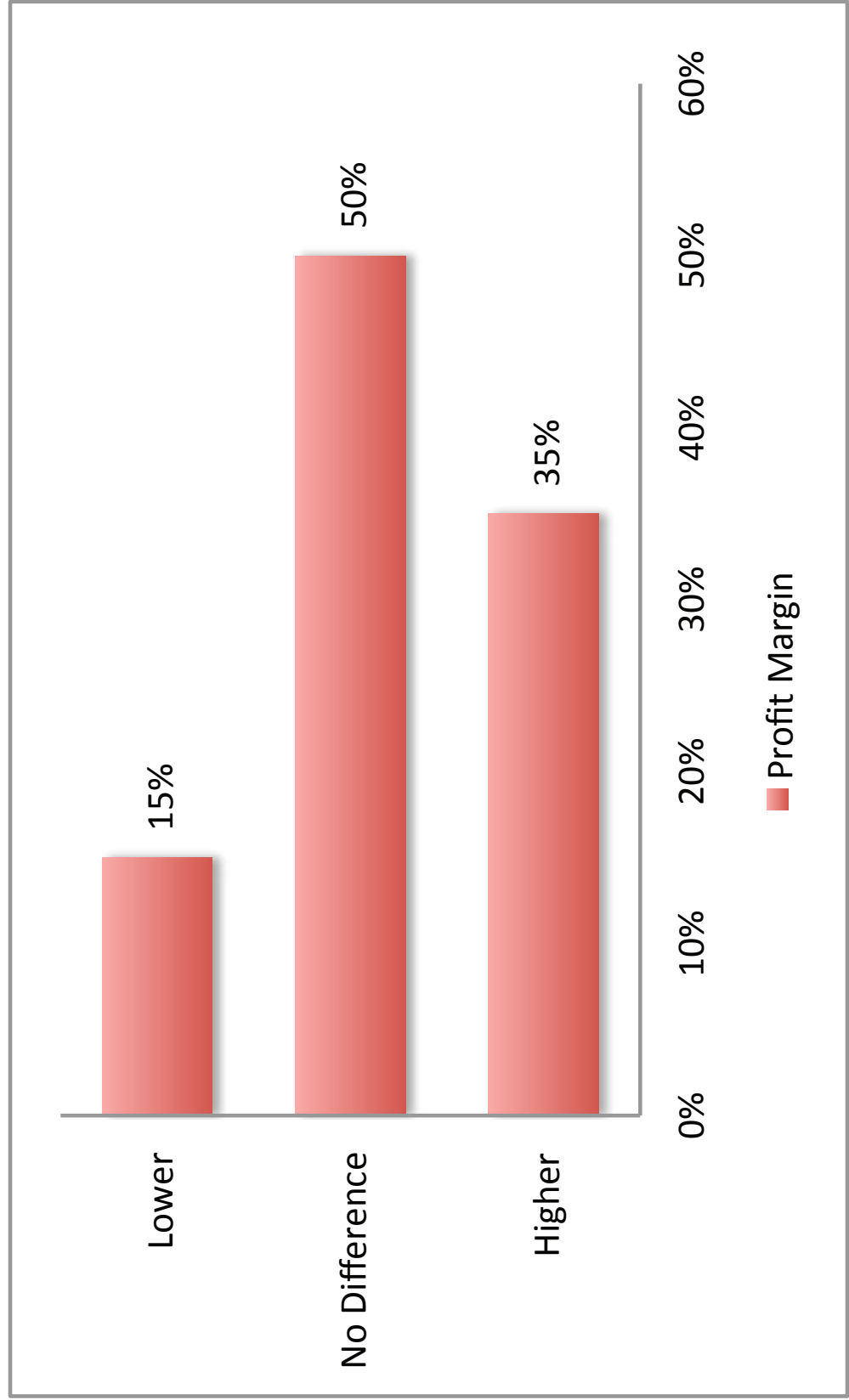


Business Metrics
New Client Acquisition



Business Metrics

Profit Margin



Implementation Feedback/Findings

Introduction

A number of questions were asked of respondents to assess the process of certification. Did the process go well, or was it difficult? How did employees respond to the process? Were there intervening factors that may have impacted certification? Finally, was it all worth it? The study sought to uncover possible impediments to success with certification, indeed desire to pursue SGP certification.

Time to Achieve Certification – Each respondent was asked to indicate the amount of time required by the organization to achieve certification. The average amount of time was 9.8 months, and the range of time required was a low of 2 months to 2 years. Later in the survey respondents were asked to indicate any additional certifications the organization had achieved (among them included ISO 9001, ISO 14001). The two responding organizations that took the least amount of time to achieve SGP certification (2 and 3 months) were also ISO 9001 and ISO 14001 certified. The two organizations that took the longest to achieve SGP certification (both required 2 years) did not have ISO certification. Just under a fourth of all SGP certified facilities had achieved either level of ISO certification. The pattern that emerged is that if an organization had undergone ISO certification then the SGP certification process took less time than if the organization had not undergone ISO. This suggests that SGP inquire of firms pursuing certification if they have undertaken ISO or not. If the later, this suggests that managing expectations about the time and difficulty of the process may be prudent.

Before/After Audit Feedback – As a follow-up to the foregoing question, respondents were asked to indicate the degree of favorableness by different employee groups as they prepared for the SGP audit process, and then in a separate question, their view after certification was achieved. The employee groups included production, office staff, sales, customer service, management, temporary workers, existing clients and prospective clients. This before and after assessment revealed that during the initial audit preparation was viewed as “less favorable” and afterward as “more favorable”. The only employee group that did not conform to this view was management. Their view was favorable before *and* afterward. This suggests that management was the driving force behind pursuit of certification, and is not an unusual finding. What this finding also suggests is that preparing the various work groups of the organization for what lies ahead would be a worthwhile undertaking. Help employees to understand that the process is less onerous than perceived, and is worthwhile once achieved.

Effort Required to Achieve Certification – Respondents were asked to indicate the degree of effort required to achieve certification, as well as the amount of effort required to maintain certification. This was assessed by using a six point scale that ranged from “Very Easy” to “Very Difficult”. Not surprisingly, given the foregoing findings about “favorableness”, the median response to amount of effort required to achieve certification was “Somewhat Difficult”. Correspondingly, the amount of effort required to maintain certification was reported as “Somewhat Easy”. Therefore, the recommendation suggested in the foregoing topic is appropriate here as well. Managing employee expectations about the effort required will improve their associated favorableness to the process.

Motivation to Pursue SGP Certification – Responding facilities were asked to indicate what influences drove their motivation to pursue SGP certification. A total of 14 possible influences were provided, including demands from customers, competitors, employee safety, environmental groups, improve company image, compliance, reduce costs, improve employee morale, management philosophy, etc. Respondents were asked to indicate for each of the possible influencers their respective degree of impact on organization’s motivation to pursue certification. The greatest influence that motivated pursuit of certification was management philosophy. The least influential was response to demands from environmental groups.

These results suggest both a challenge and opportunity for SGP as it seeks to expand the number of certified print organizations. The opportunity is clear. If an owner/CEO of an organization believes that being on the leading edge of environmental performance is a valuable endeavor then SGP certification is the means to that end. The challenge, however, is to find out what has the greatest impact on owner decision making? If it’s the environment we already know what to do, but what if it’s not? The answer for SGP is to determine what is the greatest driver, especially if it is something other than optimal environmental performance. That “something” usually reduces to financial impact. The good news for SGP is that its certification process demonstrates the potential to reduce costs and improve profitability.

Value of SGP Certification – All respondents were asked to indicate their respective organizations’ value of SGP certification using a scale that included the following options; “very valuable”, “moderately valuable”, “somewhat valuable”, “not valuable”, and “unsure at this time”. The greatest proportion of respondents, 48.4% indicated that certification was “very valuable” while 29.0% indicated it was “moderately valuable” and 22.6% reporting “somewhat valuable”. No one indicated that certification was “not valuable” and no one was “unsure”. While the greatest number of certified facilities regards SGP certification as very valuable, there is some work to do in order to make it predominant choice by more facilities.

Conclusions/Implications

Once a study is completed and the data analysis has been performed it is time to reflect on the findings and offer “next step” thoughts/ideas for consideration. Each reader of this report should engage in the same exercise as there are no wrong answers. Indeed, usually most ideas are worthwhile and, in turn, they should become part of the final step. The final step is for the decision makers, who will examine the recommended ideas, prioritize them and consider which has the best chance of success and return on investment. Below are a few recommendations based upon the researcher’s reflection on the research findings. Some, or none, may have merit. However, it is hoped that the SGP Board of Directors, who are more knowledgeable of the needs of the organization its certified members, may use them to spark discussion on the next steps for SGP and its goal to drive the industry to a green and sustainable future

Share, Celebrate & Market – The environmental findings support the conclusion that SGP makes a difference in guiding printers toward environmental excellence. Or put another way, SGP makes a difference for the environment ... Mother Nature thanks you. The SGP certification protocol is a successful tool that meets a compelling need for print manufacturing. It is recommended that SGP convey this through as many channels as possible; put it on the organization’s website, share it at trade events, put the message in print, put it on the phone greeting to SGP, and through all the communication channels used by the organization.

Likewise, certified printers should share and celebrate their contribution to this environmental performance. First and foremost, printers should share their performance with employees. Let them know their efforts are making a difference. Printers should share their good report with local media. It is a story that likely will be received favorably and garner publicity for the good effort and results that have been achieved.

While most printers do have a website, a quick sampling of printer websites reveals that printers state that they are SGP certified (along with FSC, SFI, G7, etc.) without revealing the full extent of what this certification means. It is possible that printers don’t know exactly what to share, or how to share the message. Regardless, it is recommended that SGP take it on the task to develop content that certified printers can use on their websites, their promotional literature, as well as support materials for sales reps.

The Implied Market – Printers, of course, don’t print for the pleasure of printing (well, some may). They print to serve and satisfy their clients. For SGP the market of print buyers is an implied market, and it is recommended they be pursued aggressively. Creating demand for

sustainable green printing will enlarge the demand for certification services from SGP, and by extension the population of certified printers. Specifically, it is recommended that SGP undertake a study of the print buyer market. The goals of this research should be twofold. First, there is little knowledge about the extent to which print buyers understand the value of SGP. Is it minimal or extensive? Secondly, given the foregoing, to what extent does the community of print buyers value print manufacturing from a sustainable green print facility? Is it something that is preferred, and if so, can that be evaluated in terms of price?

Update, Collect & Publish the Data – SGP requires all certified facilities to complete an annual report. While the report is useful, its potential and power could be enlarged greatly. It is recommended that the SGP board consider including measurement as part of the report. For example; how many tons of materials were recycled, how much many kilowatts of power were consumed for the year, what was the level of HAP emissions, etc. While these benchmarks would need to be normalized against production volumes, the use of such data could reflect how SGP printers favorably impacted the environment. In turn, such data would offer a tangible and compelling argument for sourcing print through a SGP certified manufacturer. Each printer could use the data to celebrate and share their environmental success, and SGP could use the aggregated findings of all certified facilities to market itself to the market on non-certified printers, as well as SGP's implied market, print buyers. This would require some work on the part of SGP and its certified print community, but it has the potential to be a positive outcome for all parties, and of course, the environment.

Conduct a Biennial Study of SGP Certified Printers – now that an initial study has been performed it would be worthwhile to continue the practice to document the evolving level of performance of certified printers, and uncover new developments that may be emerging within the community of certified facilities. A number of the items used in the initial study should be continued in order to use the current results for benchmarking. Over time it would then be possible to understand the progression of practice toward achieving better environmental performance as well as business performance. In addition, other lines of inquiry should be added that taps into the depth of knowledge that exists at the facility level. For example, open ended response questions might be added that open windows of opportunity for SGP, and by extension other members of the certified community. For example, what different approaches to participating facilities use to push continuous improvement down and throughout the organization to develop greater levels of environmental performance? How do you engage your local community in pursuit of greater levels of environmental performance?

Extend/Expand SGP Certification Criteria – The existing criteria define a meaningful road map for driving the printing industry toward a green and sustainable standard. While SGP has yet to experience widespread adoption (and clearly, this is the greater priority at the moment), that is no reason for considering how standards could/should evolve. Many examples could be evaluated for their respective contribution for driving SGP to establishing standards that address current societal needs and scientific knowledge. One example is standard 3.2.1.1, design aspects of product. The current standard directs certified facilities to have dialog “with customers to evaluate the most efficient use of materials, layout, substrate characteristics ...”. The standard further specifies that a written procedure is not required. While the standard certainly has merit, it might have greater value if it was established that for each project quoted the facility responded not only per the client’s request, but also submitted a “green” quote for consideration. Yes, that would be additional effort and cost, but it could knit a more meaningful relationship with the client, and it would further deepen the client appreciation and expectation from a SGP certified print facility. Another standard, 3.2.1.2.3, which addresses optimization of transportation and logistics of product shipped, is another opportunity for refining. Specifically, it would be more meaningful if a goal to measure “carbon” contribution among competing shipping alternatives was established. Again, this would be extended to clients offering the lowest carbon emission option versus the lowest cost option. Working with shippers to provide quotes that included this data could be incorporated into letters of quote, and again, become part of a SGP standard in its criteria. Another standard which could include a carbon measure is 3.2.2.3, which is the “press.” Any, or all, of the foregoing could be undertaken by sub-committee created by the board to examine the cost/benefit of these or other proposed new standards, or modification of existing standards. This would be a vehicle for allowing SGP to keep current with the leading edge of science, as well as evolving sentiment by society.



Assuring a more sustainable supply chain.

SGP Certified Facility Survey

Section I – SGP Certification at Your Organization

1. What **month** and **year** did your company/organization achieve SGP Certification?

Month_____ Year_____

2. How much **time** (months/years) did your company/organization spend in preparation before it was audited for certification? _____

3. During the preparation for the initial SGP audit what was the degree of favorableness toward the audit process by the following employee groups? **Circle the number** that corresponds to the degree of favorableness, that ranges from 1 = Extremely Favorable TO 5 = Extremely Unfavorable.

A.	Production employees	1	2	3	4	5
B.	Office/admin staff	1	2	3	4	5
C.	Sales Reps	1	2	3	4	5
D.	Customer Service Reps....	1	2	3	4	5
E.	Management	1	2	3	4	5
F.	Temporary/seasonal	1	2	3	4	5
G.	Existing clients	1	2	3	4	5
H.	Prospective clients	1	2	3	4	5

4. Since achieving SGP Certification what was the degree of favorableness by the following employee groups, and non-employee groups, to the audit process? **Circle the number** that corresponds to the degree of favorableness, that ranges from 1 = Extremely Favorable TO 5 = Extremely Unfavorable.

- | | | | | | | |
|----|-----------------------------------------|---|---|---|---|---|
| A. | Production employees | 1 | 2 | 3 | 4 | 5 |
| B. | Office staff | 1 | 2 | 3 | 4 | 5 |
| C. | Sales Reps | 1 | 2 | 3 | 4 | 5 |
| | | | | | | |
| D. | Customer Service Reps..... | 1 | 2 | 3 | 4 | 5 |
| E. | Management | 1 | 2 | 3 | 4 | 5 |
| F. | Temporary/seasonal..... | 1 | 2 | 3 | 4 | 5 |
| | | | | | | |
| G. | Existing clients..... | 1 | 2 | 3 | 4 | 5 |
| H. | Prospective clients | 1 | 2 | 3 | 4 | 5 |
| I. | Local/Federal regulatory agencies | 1 | 2 | 3 | 4 | 5 |
| | | | | | | |
| J. | Local community | 1 | 2 | 3 | 4 | 5 |
| K. | Local environmental groups | 1 | 2 | 3 | 4 | 5 |
| L. | Other | 1 | 2 | 3 | 4 | 5 |

5. Since achieving SGP Certification what changes have been observed in your **business metrics** for the following? **Circle the number** that corresponds to your answer using the following scale ...1 = Higher, 2 = No Difference, 3 = Lower, 4 = Don't Know.

- | | | | | | |
|----|-------------------------------------------------|---|---|---|---|
| A. | Sales revenue | 1 | 2 | 3 | 4 |
| B. | Labor costs | 1 | 2 | 3 | 4 |
| C. | Material costs | 1 | 2 | 3 | 4 |
| | | | | | |
| D. | Operating costs | 1 | 2 | 3 | 4 |
| E. | Number of worker compensation claims | 1 | 2 | 3 | 4 |
| F. | Average cost of worker compensation claims..... | 1 | 2 | 3 | 4 |
| | | | | | |
| G. | New client acquisition..... | 1 | 2 | 3 | 4 |
| H. | Profit margin..... | 1 | 2 | 3 | 4 |
| I. | other | 1 | 2 | 3 | 4 |

6. Since achieving SGP Certification what changes have been observed in your **environmental metrics** for the following? **Circle the number** that corresponds to your answer using the following scale ...1 = Higher, 2 = No Difference, 3 = Lower, 4 = Don't Know.

A. VOC emissions	1	2	3	4
B. HAP emissions	1	2	3	4
C. Volume of hazardous waste generation.....	1	2	3	4
D. Volume & pollutant loading of wastewater discharges.....	1	2	3	4
E. Energy consumption.....	1	2	3	4
F. Volume of materials recycled.....	1	2	3	4
G. Volume of materials landfilled	1	2	3	4
H. Water consumption	1	2	3	4
I. other_____.....	1	2	3	4

7. Rate each item below from greatest to least as they correspond to range of **great impact** to **no impact** on your organization's motivation to pursue SGP Certification. **Circle the number** that corresponds to your answer using the scale that ranges from ... 1 = Great Impact TO 5 = No Impact.

A. Response to demands from customers.....	1	2	3	4	5
B. Maintain existing customers.....	1	2	3	4	5
C. Gain new customers.....	1	2	3	4	5
D. Meet or exceed competitors' performance level.....	1	2	3	4	5
E. Improve employee safety.....	1	2	3	4	5
F. Response to demands from environmental groups.....	1	2	3	4	5
G. Reduce risk of environmental liabilities.....	1	2	3	4	5
H. In anticipation of competitors' actions.....	1	2	3	4	5
I. Reduce workers' compensation claims.....	1	2	3	4	5
J. Obtain production cost reductions.....	1	2	3	4	5
K. Improve company image within local community.....	1	2	3	4	5
L. Motivate employees.....	1	2	3	4	5
M. Improve compliance with environmental regulations.....	1	2	3	4	5
N. Response to corporate/management/owner philosophy...	1	2	3	4	5
O. Other _____	1	2	3	4	5

8. Given the amount of effort expended in achieving initial SGP Certification, how would you rate the overall effort for the organization? **Circle the one letter** that corresponds to your answer.

- A. Very easy
- B. Moderately easy
- C. Somewhat easy
- D. Somewhat difficult
- E. Moderately difficult
- F. Very difficult

9. Given the time/resources expended in maintaining SGP Certification, how would you rate the overall effort for the organization? **Circle the one letter** that corresponds to your answer.

- A. Very easy
- B. Moderately easy
- C. Somewhat easy
- D. Somewhat difficult
- E. Moderately difficult
- F. Very difficult

10. What position level was the main person assigned to prepare your company/organization for the initial SGP audit? **Circle the one letter** that corresponds to your answer.

- A. Entry level (new) general staff; *position title* _____
- B. Experienced general staff; *position title* _____
- C. Supervisor; *position title* _____
- D. Mid-level or department manager; *position title* _____
- E. Upper management; *position title* _____
- F. Senior management; *position title* _____

11. Does your organization incorporate achievement of SGP Certification in its sales and marketing communication activities? **YES NO** (circle one)

IF YES, which of the following marketing communication channels is used for promoting SGP Certification? **Circle the letter(s)** that apply.

- A. Featured in organization's website
- B. Featured in trade magazines or websites hosted by other organizations
- C. Featured in printed literature produced by your organization

- D. Featured in sales presentations to prospective clients
- E. Featured in social media
- F. other (specify) _____

12. What rating does your organization give in terms of the value of SGP Certification? Using the scale below, **circle the letter** that corresponds to the value your organization places on SGP Certification.

- A Very valuable
- B Moderately valuable
- C Somewhat valuable

- D. Not valuable
- E. Unsure at this time

Section II – Organization Demographics

1. What print processes are used in your facility/facilities? **Circle** all letters that apply.

- A. Digital
- B. Screen
- C. Gravure

- D. Lithographic
- E. Flexography
- F. Letterpress

- G. other _____

2. What other 3rd party certifications has your company/organization achieved? **Circle the letter(s)** that apply.

- A. ISO 9001
- B. ISO 14001
- C. FSC

- D. SFI
- E. PEFC
- F. LEED

- G. Green-e
- H. B Corps
- I. other _____

3. What is the average number of employees in your company/organization?

4. How many years has your company/organization been in business?

_____ Years

5. Using the categories below, what is the annual revenue of your organization?

Circle the one letter that applies.

- A. \$0 to \$4.9 million
- B. \$5-9.9 Million
- C. \$10 - \$19.9 Million

- D. \$20 – \$29.9 Million
- E. \$30 - \$39.9 Million
- F. \$40 - \$49.9 Million

- G. \$50 million or greater

Thank you for your participation!