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DEVELOPING THE NEW HORIZONS FOUNDATION DECISION-MAKING FRAMEWORK FOR NEW MARKET ENTRY IN THE SHEET METAL CONSTRUCTION INDUSTRY: RESEARCH REPORT

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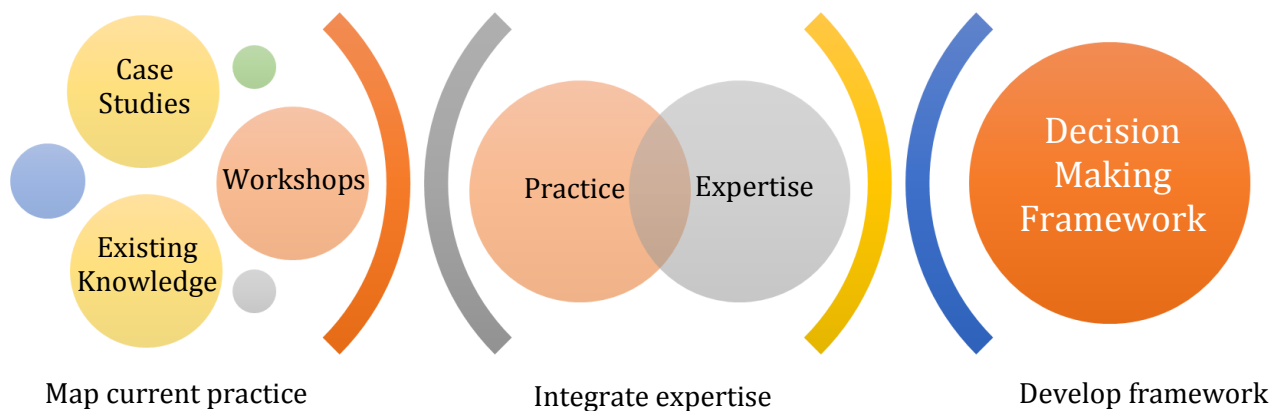
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Executive Summary

Entering a new construction market is a complex task. Although many contractors have experienced the benefits of expanding their market offerings, many more have had unsuccessful experiences causing hardship for the entire organization. Out of every five attempted market entry decisions, only one is successful.

Sheet metal contractors with formal decision process

6-7%
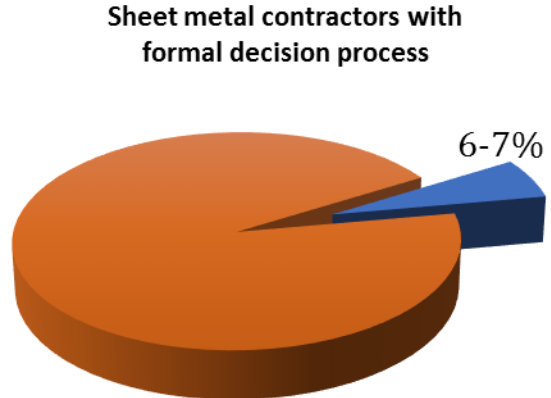
Standardized decision-making processes increase the likelihood of success, but few contractors use a formalized decision structure. According to this research, only 6 to 7 percent of sheet metal contractors have a formal decision process. To address this lack of standard market entry practices, a 10-step decision framework has been developed based on a combination of existing knowledge, an industry survey of the state of practice, case studies of market entry decisions, industry workshops, and expert panels. The use of several research methods allows for triangulation and verification of each results, also ensuring the developed framework is valid and useful to the industry. Through these research methods, current industry decision-making practices are identified to ensure the framework aligns with industry practice while also being enhanced through industry and academic knowledge. The result is a step-by-step framework to entering new markets. The framework highlights the most important aspects of such decisions and increases the likelihood of success.

Case Studies

Workshops

Existing Knowledge

Practice   Expertise

Decision Making Framework

Map current practice   Integrate expertise   Develop framework

The framework consists of ten steps that are organized in three phases. The first phase, *Definition*, clarifies the decision and its context. The second phase, *Analysis*, encourages the decision-makers to review similar experiences, focus on the most important decisions factors, and address decision-making issues that commonly hinder success. The third phase, *Planning*, ensures that proper structures are in place to successfully carry out the market entry decision.

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Section 1. Introduction

Deciding whether or not to enter a new market is a complex task. On the positive side, market entry can improve long-term profitability and relationships with customers, provide an opportunity to challenge and promote key employees, and mitigate the risk of a market downturn. Unfortunately, only one in five entries is successful (Horn et al. 2005), and a failed market entry can result in hardship for the entire company.

The construction industry in particular presents many challenges to successfully growing and diversifying a company. An ever-changing market environment causes uncertainty and has a complex influence on strategic decision-making (Miller 1993). Learning from one organization's own experience is nearly impossible due to the infrequency of market entry decisions and because feedback from each decision is slow and difficult to understand (Betts and Ofori 1992). Also, there is little market entry guidance available to the construction industry (Price 2003).

Research has shown deliberate, methodical processes improve the likelihood of successful decision outcomes (Brinckmann et al. 2010, Dean and Sharfman 1996, Papadakis and Barwise 1998). Additionally, considering a diverse set of analogous decisions leads to better outcomes than focusing on the few, more familiar, experiences of a single company (Lovallo et al. 2012). However, finding time to fully understand the nuances of market entry decision-making is difficult.

Ninety-nine percent of construction contractors in the U.S. employ fewer than 100 employees (U.S. Census Bureau 2013). Small to medium-sized specialty contractors have to balance their time dealing with resource management, fierce competition, and the dynamic nature of employment in the construction industry, leaving limited time and mental reserve for long-term planning (Soetanto and Dainty 2009). For this reason, the New Horizons Foundation (NHF) invested time, resources, and effort to help sheet metal and HVAC contractors with the strategic task of market entry decision-making.

This research report details the process of developing the NHF framework for market entry decision making. The framework is a standalone document separate from this research report, which can be used by contractors to guide their decision-making process. This research report explains how the NHF framework was developed. It is based on decisions made specifically by sheet metal and HVAC contractors. It maps the current methods of

decision making by contractors as they consider a new market sector, add a trade or service or expand geographically. The resulting framework is a unique intervention to improve the overall success rate of these market entry decisions in the sheet metal and HVAC industry. The remainder of this report describes the creation of the NHF market entry decision-making framework.

Section 2. Market Entry Decision-Making Framework

In this study, the research team investigated the current state of market entry decision-making, prioritized key decision factors, and developed a step-by-step framework. The goal of developing a structured framework is to ensure the most crucial elements of market entry decision-making, which have proven critical to the success or failure of our peers' similar decisions, are addressed thoroughly. The resulting ten steps are organized in three-phases: Definition, Analysis and Planning.

Phase 1, Definition, consists of three steps: (1) Understand Today's Company, (2) Define the Decision, and (3) Choose Decision Makers and Advisors. Decisions that start with a clear purpose are more likely to be successful than those that do not. This phase addresses the definition of the decision, the fit within the company, and who will be involved.

Phase 2, Analysis, contains steps 4 through 8: (4) Review Experiences of Others, (5) Review Lessons Learned, (6) Assess Key Factors, (7) Identify Challenges, and (8) Determine the Exit Strategy. Steps 4 and 5 encourage decision makers to consider a number of similar situations to improve forecasting and creativity when developing alternatives. Steps 6 through 8 focus on the details of the decision at hand. The assessment of decision factors in Step 6 provides tools to assess the *essential eight* factors as determined through the prioritization workshops. Steps 7 and 8 address specific issues of group decision-making that need to be addressed before moving forward.

Phase 3, Planning, concludes the process with Steps 9 and 10: (9) Define Action Items and Timeline, and (10) Create Implementation Strategy. These steps are regularly cited as best practices in the literature to start developing a plan to enter the new market.

Also included in the framework are four "go/no go" decision points. At these points, contractors are encouraged to reflect on the assessment process. Choosing "go" means the contractor believes it is worthwhile to continue analyzing the market. Choosing "no-go" means critical issues have come up making it impractical to continue. Pausing periodically to reflect at logical points in the process is intended to encourage a thoughtful approach to making a market entry decision.

These phases, steps, and "go/no-go" points are shown in the flowchart below (Figure 1). The remainder of this report will detail how each step was developed and incorporated into the overall decision support framework.
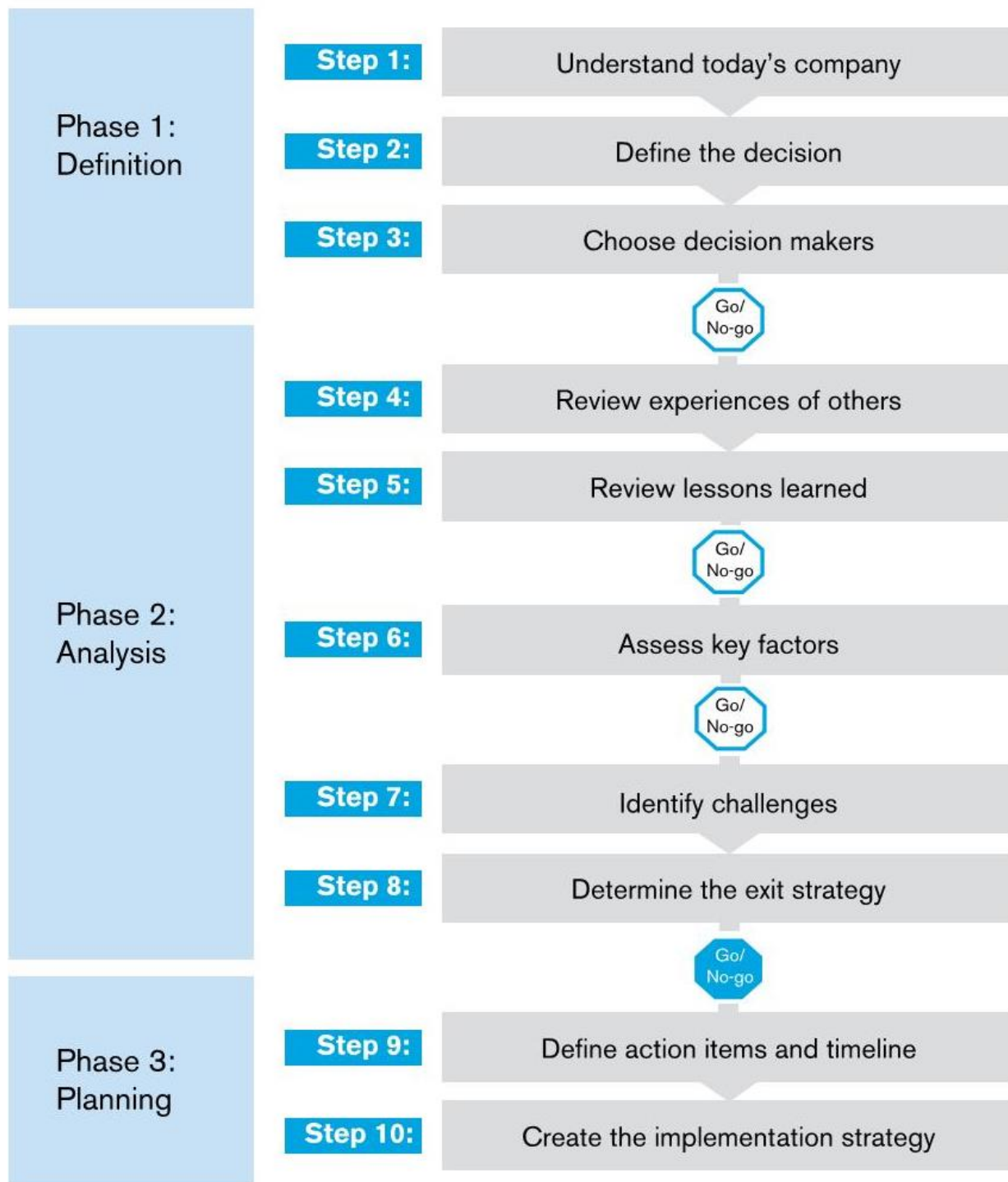
Figure 1: Market Entry Decision Flowchart

Section 3. Research Structure

The main goal of this study is to create a practical, scalable, and easy to use framework for market entry decisions. To meet this goal, three objectives guided the research design:

1. Determine the current processes and best practices used for market entry decision-making in the sheet metal and HVAC industry;

2. Identify motivations leading to market entry by sheet metal and HVAC contractors; and

3. Develop a structured decision process that improves market entry decision outcomes.

The objectives were further broken down into eight research questions that are addressed using either quantitative or qualitative data analysis. To answer the research questions, this study used five sources of data: published research, industry survey, semi-structured interviews, factor prioritization workshops, and expert panel discussions. The research questions and data sources used to answer each question are shown in Table 1.

Table 1: Research Questions with Data Collection Sources Organized by Objective

Obj.	Research question	Data source
1	Who is typically involved in making market entry decisions?	Survey, Interviews, Research
	What are the major factors sheet metal contractors consider before entering a new market?	Interviews, Workshops, Research
	What are common timeframes for making market entry decisions?	Interviews, Expert panel, Research
	How do sheet metal contractors typically make a market entry decision (what is the process)?	Interviews, Expert panel, Research
2	Why do sheet metal contractors grow through market entry?	Interviews, Expert panel, Research
	What are the most common types of market entry attempted by sheet metal contractors?	Survey, Interviews, Research
3	How often are sheet metal contractors successful in entering a new market?	Interviews, Research
	Does a standard framework improve the market entry decision-making process?	Interviews, Expert panel, Research

Answering each research question using multiple data sources allows for the triangulation of results. Triangulation is the use of multiple methods or data sources to study a single phenomenon (Denzin 1970). Similar findings from multiple data sources increase the credibility of the results.

The next section describes each of the sources of data, including the data collection methods used and results from each source. Although the data sources are presented individually, the data collection and analysis followed an iterative approach; data collection and analysis from each source occurred concurrently (in parallel) with others.

Using this parallel data collection and analysis approach, findings from each source are able to inform and improve the next data collection and analysis steps. For example, the literature was reviewed at the onset of the research study for the purpose of comprehensively understanding the problem and gaps in knowledge, as well as defining the scope of the research. Then, experts in the sheet metal construction industry were engaged to provide experiential knowledge specific to sheet metal and HVAC contractors. With the basic understanding gained from the literature and experts, an industry survey was conducted. The literature was then reviewed for the second time to determine whether the new survey results are consistent with previous findings, and to understand if existing studies address the specific needs identified by the survey respondent from the sheet metal industry. The initial literature review and then the more targeted re-examination of the literature were both used to inform the subsequent semi-structured interviews and factor prioritization workshops. This overlap of all data collection methods allows for the comparison of findings and improvement of each method as the study continued.

Section 4. Data Sources and Analysis

This study captured data from five different sources, as introduced earlier. Table 2 shows the five sources of data collected for this research and the type of data from each source: either quantitative, qualitative, or both. This section provides the details about how each source was used to learn about market entry decisions, along with their respective results.

Table 2: Data Sources and the Nature of Data Collected

Data source	Qualitative	Quantitative
Industry survey	X	X
Expert panel discussions	X	
Existing research	X	X
Semi-structured interviews	X	X
Factor prioritization workshops		X

4.1 Industry Survey

An industry survey sent to sheet metal and HVAC contractors was administered early in the research effort. The purpose of the five-question survey was to assess the current state of the industry and gauge contractors' experience with strategic decisions including market entry.

The email list included 3,784 individuals at the time of the survey. Ninety-three responses represent 2.5 percent of the individuals surveyed, and 6 percent of the companies surveyed. The positions held by survey respondents are shown in Figure 2. Seventy-three percent of the responders are company leaders (owner, president, CEO), 19 percent are upper management (vice president, divisional leader, COO, CFO), and 8 percent are project managers. Figure 3 maps the respondents by state.
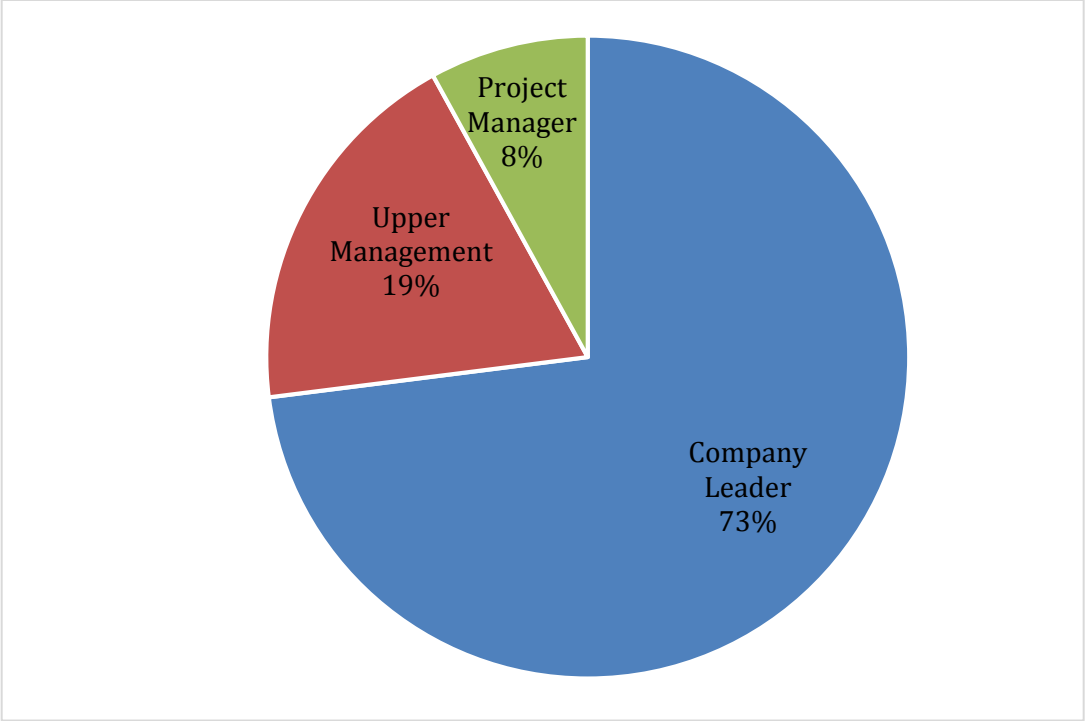
Figure 2: Positions held by survey respondents
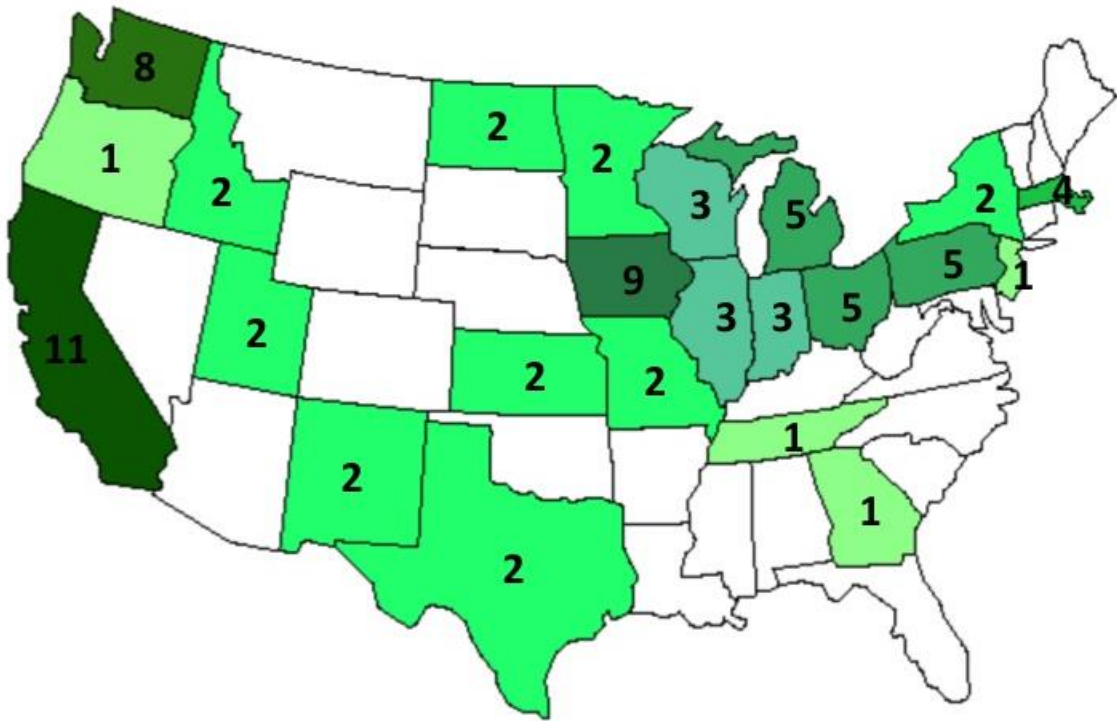
Figure 3: Distribution of Survey Respondents by State, N=93

Survey responses are found in Figure 4. Only 37 percent of respondents have a written strategic plan for their company, which may indicate a lack of time and priority for such activities. Although a minority of contractors have a strategic plan, 89 of the 93 respondents (96%) have made a strategic market entry decision in the past 10 years. These are strategic decisions that would be enhanced by the existence of a strategic plan for the company. Taking on a new project type and expanding geographically were the most common types of market entry. A significant motivation for the study was finding out that, although most respondents are making market entry decisions, only 6 percent have a formal written decision process to follow. The literature has shown that following a structured process can significantly enhance the success of such decisions. The decision makers in most cases include the top leaders (owner, president, CEO) and upper management (vice president, divisional leader, COO, CFO) making them the targeted group of participants for future data collection through structured interviews.

Question 1: Does your company have a written strategic plan?
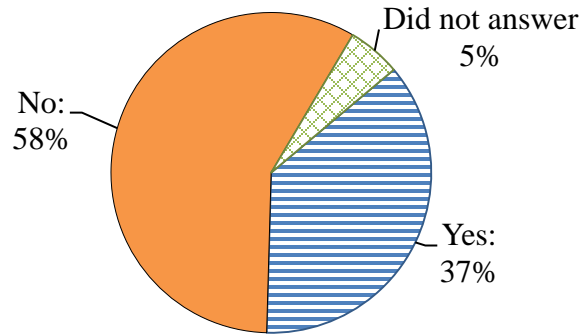
Question 2: Check all of the market decisions for which you have been involved as a leader in the past 10 years:

Take on a new project type	60
Expand geographically	56
Add HVAC service	45
Increase project size	42
Add a trade	32
No response given	4
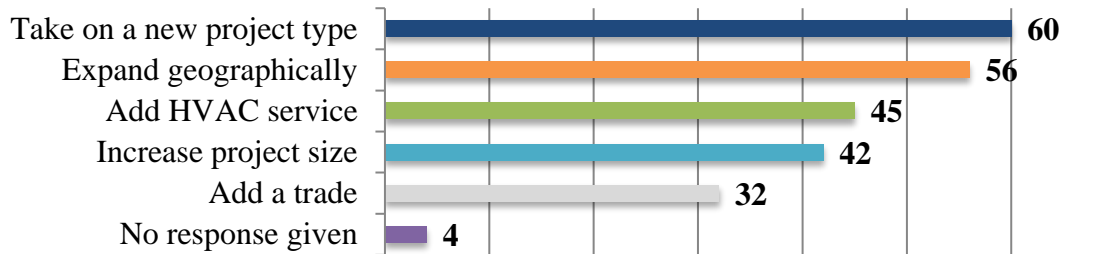
Question 3: How does your company make decisions about entering a new market?
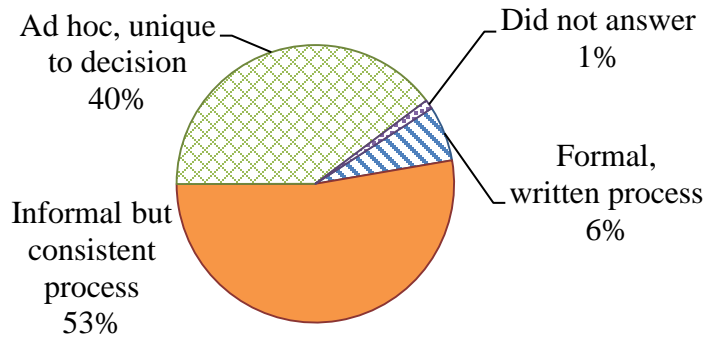
Question 4: Who is typically involved in advising your company's market entry decisions? (Check all that apply)

Company leader	82
Upper management	67
Senior project managers	35
Peer group	13
External advisors	8
Other	6
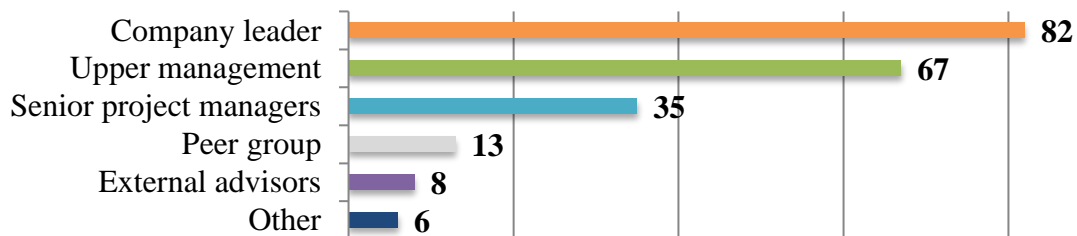
Figure 4: Results of First Four Questions on Industry Survey, N=93

4.2 Expert Discussions

Throughout the whole research process, expert panel discussions were used to collect data on targeted topics. Three types of expert panels were used. First, the local expert sounding board, consisted of three individuals, each with over 35 years of experience in the construction industry. These longtime servants of the industry provided input based on industry knowledge and experience, and reviewed findings from data collection methods. The second panel, the project coordination team, provided vision and direction. This group of three researchers and three leaders from the New Horizons Foundation ensured the research effort stayed on track to fit the needs of both the Foundation and the sheet metal and HVAC industry. The third panel, the New Horizons Foundation board consisting of 15 to 20 executives of sheet metal and HVAC construction companies, met annually to review the research progress, provide insight from industry experience, and help plan the upcoming work to align with the sheet metal industry's most pressing needs.

4.3 Existing Literature

The academic literature reviewed for this study involved a keyword search of seven relevant databases (Compendex, EBSCOhost, Google Scholar, Inspec, National Technical Information Service, ProQuest, and Web of Science). Eight existing market entry decision aids were found during a thorough search of the construction industry literature. All eight aids are intended for use in international market entry with no mention of their applicability to entering a new market domestically or adding a new trade or service in the current geographical region. Although the modeling techniques differ from study to study, each decision aid identifies and analyzes decision factors from either the literature alone, or from a literature review supplemented by input from industry professionals. Upon analysis, a decision is made based on the measures of success determined by the respective study's authors.

Each of the existing aids uses a modeling method to chart the interaction and impact of decision variables. Han and Diekmann (2001) use cross-impact analysis to map the interactions between project risk variables. Decisions are then made based primarily on expected profitability, in addition to other benefits of market entry. Gunhan and Arditi (2005) combine the tiered organization of the analytical hierarchy process with expert

weightings synthesized using the Delphi method. This method allows decision makers to balance a variety of important success metrics. Cheng et al. (2011) use fuzzy relation analysis to assess the market risk, giving a prospective country a risk score. Then, cumulative prospect theory is used to determine decision maker preferences for projects. Tang et al. (2012) utilize an entropy approach to weight critical success factors through a questionnaire. Unlike the previous studies, Kim et al. (2013) explore the entry of a new market as an investment decision rather than a risk assessment. Using a real options approach, decisions are made based on investment value.

Interestingly, authors Ozorhon, Dikmen, and Birgonul study international market entry decisions of Turkish contractors using a variety of methods. Dikmen and Birgonul (2004) develop a neural network to determine the attractiveness of an international project and a company's competitiveness. An analytical hierarchy process is used to rank international projects based on the project's risk and opportunity in Dikmen and Birgonul (2006). Subsequently, Ozorhon et al. (2006) use the same database of projects and decision factors to predict project outcomes using a case-based reasoning model.

The finding that many approaches are used by the same authors highlights the fact that a variety of methods exist to assess market entry decisions from different perspectives. Most interestingly, the existing research in this field focuses solely on international market entry with no mention of their applicability to entering a new market domestically or adding a new trade or service in the current geographical region. The findings from the literature review solidify the need for this research study.

4.4 Semi-Structured Interviews: Case Studies

A semi-structured interview approach provided both qualitative and quantitative data from 30 market entry decisions by sheet metal contractors. A standard protocol was used to maintain consistency over the interview process. Twenty-two questions were used as a guide to the interviewer to ensure that a consistent set of information is being gathered. Data was gathered from executives of sheet metal contracting firms for thirty different experiences with market entry using this semi-structured interview approach.

The unit of analysis for this study was designed to be the market entry decision. Choosing this level of granularity allows for each type of decision to be evaluated separately.

For example, geographical expansion decisions can be separated from decisions to add a new trade. Also, this unit of analysis recognizes that a single organization or individual does not always use the same process for every market entry decision. The process may be adapted based on the specific circumstances, and the unit of analysis at the decision level allows for adaptations to be considered.

Once the interviews were completed, a multiple case study approach was chosen to investigate the links and outcomes of these real-world decisions. By definition, a case study explores a contemporary phenomenon in its actual context when the phenomenon/context boundary is not clear (Yin 2013). The case study approach allowed the market entry decisions to remain linked to their context, maintaining the uniqueness of each situation. Comparing the decision context, process, and outcome from multiple cases allowed decision-making elements impacting success to be detected. This method provides an understanding of the current practice of market entry decision-making and a springboard for improving future decisions. While a single case can give a detailed description of a market entry, a study of multiple cases was chosen to provide evidence of replication and a more robust grounding in the variety of contextual data (Eisenhardt and Graebner 2007). In total, 30 market entry decisions were analyzed as part of this research effort.

4.4.1 Identifying Cases to Study

The cases in this study were sampled from sheet metal and HVAC contractors' experiences. These firms typically install, fabricate, manufacture or service heating, ventilation, and air conditioning (HVAC); industrial duct systems; architectural sheet metal applications; or sheet metal products. Choosing to limit the population to sheet metal and HVAC contractors provides consistency in some of the contextual elements such as utilization of labor and performance of sheet metal trades.

Participants were solicited at industry meetings, annual conventions, association chapter meetings, and through the New Horizons Foundation's email list. Voluntary enrollment in the study meant each of the participants was willing to share the details of a market entry decision or experience in which he or she was closely involved. In total, participants made up mostly of company presidents, but also company partners, senior vice presidents, and senior project managers, provided 30 cases for this research study.

Participants were encouraged to provide both successful and unsuccessful experiences. Studying a variety of decision outcomes avoids what Taylor et al. (2011) describe as the "missing witness". Likening the collection of evidence in case study research to that in a legal trail, a missing witness raises the presumption that the testimony would have been unfavorable (Taylor et al. 2011). In this research, a missing witness would mean determining characteristics of successful decisions without consulting unsuccessful decisions to ensure the same characteristics are absent. The cases also covered a variety of market entry decision types, including: geographical expansion, adding a trade, new market sectors, new processes, and adding HVAC service. Consulting all "witnesses" helped formulate a more robust theory of successful market entry decision-making by cross-referencing the context and processes used in both successful and unsuccessful decisions.

4.4.2 Collecting Case Study Data

The thoughtful development and use of a case study protocol increases reliability and reduces bias by providing a consistent guide for data collection and clear direction for anyone wanting to repeat the procedure (Yin 2013). The protocol designed for this research included procedural steps for soliciting participants from the target population, data collection and recording, information storage, and database maintenance. Additionally, the protocol discussed important topics such as the case study background and objectives, the target audience, likely sources of information, anticipated issues/biases and strategies to resolve them, and a plan for reporting the findings.

In addition to the case study protocol, researchers regularly reviewed and updated the case study database. The database was set up as a matrix with cross-sectional codes (explained in more detail in the following section), such as decision makers, timelines, leadership characteristics and measures of success, as column headings with cases along the rows. The matrix style database allowed researchers to review (1) the consistency (or lack thereof) within the cross-sectional coding structure and (2) the alignment within each decision.

The data were gathered primarily through semi-structured interviews with decision makers and were checked for alignment with field notes, meeting minute documentation, and press releases about the decision to ensure construct validity. Twenty-two questions,

shown in Table 3, were used to structure the interviews. The questions were not always directly asked of each participant, but instead were provided to the interviewer as a guide to ensure similar information was gathered during each interview. After the interview, data were formed into a narrative and validity was checked once again by allowing the interview participant to review the draft narrative. The participant was instructed to check the document for both factual content and for appropriateness of tone. This method ensured that the interpretation of the data represented the intention and understanding of the participant.

Through use of the case study protocol, data was collected from 30 decisions and was organized into the case study database and in narratives. The following section discusses the analysis performed using the case study data. First, researchers analyzed alignment within each case. Then, cross-case comparisons identified themes within each of the coded categories. Finally, patterns were identified between coded categories, especially patterns leading to either successful or unsuccessful outcomes. The narratives from the 30 cases were anonymized for confidentiality purposes, and retained for use in a market entry decision framework intended to help sheet metal and HVAC contractors increase their market entry success rates.

Table 3: Questions Used to Structure Semi-Structured Interviews

1.	Describe a previous business decision.
2.	When did this decision occur?
3.	What prompted the decision?
4.	Who was involved in making the decision?
5.	When did you first engage each decision-maker?
6.	What were the alternatives that were considered?
7.	What was the process of coming to a decision?
8.	Did the company have a formal decision process at the time? Does it now?
9.	Was this a routine decision (part of an annual planning meeting) or a unique decision based on new market opportunities, for example?
10.	What were the key pieces of information needed to make the decision?
11.	What risk factors were considered? What opportunities offset the risks?
12.	Was a financial analysis completed? What accounting data was used?
13.	How was the need of the new market determined?
14.	Who was the leader of the new effort? What was this person's previous experience? What made them especially qualified to take on the responsibilities?
15.	How did the new market opportunity fit into the vision of the company at the time of this decision? Do you have a strategic plan? If yes, was it consulted in this decision?

16.	Who did you consider to be your competition? How did you assess your competitive advantage?
17.	What was the condition of major resources at the time of this decision (investment capital, labor availability, labor acceptance, etc.)?
18.	When was the plan implemented? How long was the entire decision-making process?
19.	On a scale of 1 to 5 how successful would you rate this decision (l being 'fell far short of goals' and 5 being 'far exceeded goals')? Based on what metrics?
20.	In your opinion, what were the key reasons for success or failure?
21.	Was a baseline for success determined before implementing the decision? Was there an exit strategy?
22.	How would you improve your decision-making process if you were to make that decision again today?

4.4.3 Within-Case Alignment Evaluation Method

Five types of market entry were considered as part of the 30 reviewed cases. Two of the five market entry types focus on targeting an unfamiliar customer: geographical expansion and new market sector. The three remaining market entry types focus on targeting a familiar customer with an unfamiliar product or service, and include: adding a trade, a new process, and adding HVAC service. Table 4 shows the distribution of case studies for each category.

Table 4: Number of Cases Collected per Category

Category	Number of cases
Geographical expansion	8
New market sector (new project type)	4
Adding a trade	11
Using a new process	4
Adding HVAC service	3
TOTAL	**30**

Alignment analysis entailed the creation of a flowchart for each case between four of the database column codes: motivation, decision process, factors considered, and measures of success. The purpose was to assess the logic between the initial motivating factors for market entry, the steps taken to come to a market entry decision, and the basis on which participants measure success after the decision. Figure 5 shows a generic schematic used as a guide for each of the 30 flowcharts. Alignment analysis helped the research in two profound

ways: 1) by providing a visual, contiguous process for each case that can be compared and analyzed, and 2) by requiring the researcher team to deeply understand each case by empathetic processing of the logic used in each situation.
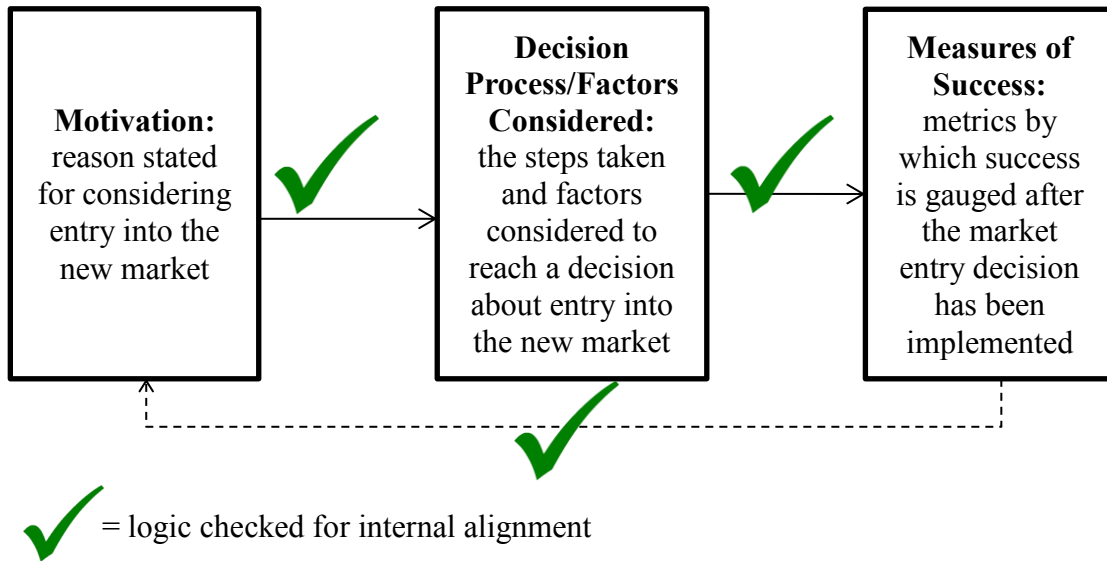
Figure 5: Generic Decision Flowchart Showing Logical Connections Checked for Internal Alignment

4.4.4 Within-Case Alignment Findings

All thirty decisions were evaluated for alignment from the initial motivation through implementation. It is important to note; the success of the decision was not yet taken into consideration when assessing alignment. A completely aligned decision might ultimately be unsuccessful, and an unaligned decision might end up being successful.

Half (15) of the decisions were found to be in alignment throughout the entire process. The decisions that were not in alignment fell into two categories: 1) measures of success were not related to the initial goals, and 2) motivations and reasons for entry were not well defined before making the market entry decision.

4.4.4.1 Category 1 Misalignment: Measures of Success Not Directly Related to Goals

Measures of success in eight decisions did not align with the initial goals of entering the new market. In these cases, the intention for entering the market was clearly articulated. However, when the decision makers were later asked about how they evaluate the success

of the decision, the criteria did not always relate back to the original objectives. For example, one participant discussed the decision to add plumbing to the company's list of services. Plumbing was being considered for two reasons: (1) to increase cash flow by elevating the company to a second-tier subcontractor versus a third-tier subcontractor, and (2) to give the participant more control over the construction schedule and coordination of crew members. During the interview, the participant described the decision as being successful because the company was still pursuing plumbing contracts and increasing their overall sales volume. The company did, in fact, increase their cash flow rate, but when asked about their control over project schedule, it was evident that unexpected issues surfaced. The company struggled to motivate the plumbing crews to work quickly, discovering a cultural difference compared to sheet metal crews. Increased management had to be sent to the plumbing projects to keep crews moving, and there were still issues with meeting milestone dates. Conflicts between trades actually increased, rather than decreased, and schedule control was not improved. Although this was one of the original motivations for entering the market, the schedule issues were ignored when evaluating the success of the decision. This example, similar to the other decision cases misaligned in their goals and success measures, suggest there may be a tendency toward optimism and justification when retroactively evaluating the performance of the market entry decision in the sheet metal industry. The psychology literature back this finding.

4.4.4.2 Category 2 Misalignment: Unclear Motivations and Reasons for Entry

A second alignment issue was found in seven of the studied decisions. These participants never established clear intentions and goals. The assessment of success in these cases consisted of the ability of the company to make a profit in the new market and the ability of the company to continue pursuing work in the new market. These measures were only established after implementing the market entry decision. Interestingly, none of the participants hesitated when asked if his or her decision was successful. Although the goals of the effort were never articulated, the decision maker had an idea of what it meant to be successful. These seven decisions that did not establish clear goals had two characteristics in common. First, none of the cases in this group had strong support from the top leader(s) of the company. For context, 66 percent of all of the decisions studied had strong support

from the top company leadership. This may mean that without strong leadership guiding the effort, the goals are less clear or understood throughout the organization. A second pattern emerged when participants were asked to rate the success of their decision on a 1 to 5 scale. The decisions in this group ranked at a level 3 or below (average 2.5). The average of all 30 decisions that were studied is 3.7. A lower average for this group of decisions without defined goals can mean two things: (1) it is hard to be successful without a defined target, and/or (2) participants are less confident in rating their effort as successful when they are unsure of the initial intention for the market entry. These differences in scores were tested statistically: the Mann-Whitney U-test showed statistically significant differences in median success scores for decisions with strong support versus those without strong support from the company leadership (p-value = 0.00005).

Assessing internal alignment helped gain an in-depth understanding of each case on an individual basis and patterns started to emerge. For more pattern identification, the cases were also compared to one another in a cross case evaluation, which is fully discussed in the next section.

4.4.5 Cross-Case Evaluation Methods

4.4.5.1 Developing Categorical Coding

Coding qualitative data is a method of breaking apart case study data and rearranging it into categories used for comparison to other cases or theory building (Maxwell 2013). Initially, the research team developed four high-level categories for data analysis: the decision process, decision makers, factors considered, and timeframes. These categories provided the facts to be gathered for each case. After the initial findings and discussions with this study's expert industry panels, the category "characteristics of the champion" was added. The experts had learned through experience that the person chosen to champion the new market could have a significant impact on the outcome of the market entry.

During the collection of case study data, three more categories were developed: motivation, measures of success, and lessons learned. Motivation was meant to capture the reasons why the market entry decisions were being considered in the first place. After just a few interviews, there was a range of initial motivations for considering market entry; these varied from "requested by a client" to "industry association seminar" or "idea from the

company president". Measures of success became important when, in two different cases, the company decided to exit the market after five years of actively pursuing work. One participant saw their market entry experience as a failure because of their exit while the other saw it as a success. For this reason, the study tracked decision makers' reasons for considering their decision successful or unsuccessful. The last category to be added was "lessons learned". This category was created because the participants each had words of wisdom that he or she gained from each decision. There was a strong desire from participants to pass along their hard-taught lessons to improve the future experiences of peer contractors.

4.4.5.2 Themes from Case Study Data

The eight category codes (decision process, decision makers, factors considered, timeframes, characteristics of the champion, motivation, measures of success, and lessons learned) became the column headers for the case study database. Each of the 30 collected cases represented one row of the database. The matrix created by setting up the database columns in this fashion was analyzed in two different ways: (1) themes were developed within each coding category and (2) patterns, or relationships between themes, were detected.

Cross-case themes were identified by reading the data for all cases within a particular column. For example, all of the data pertaining to characteristics of the champion were reviewed. Three leadership themes were identified: (1) a top leader (i.e. company president) within the company took on the role of the champion, (2) an external champion, someone not currently employed at the company, was chosen to lead the new market, or (3) an internal champion, someone who is currently employed at the company, was chosen to lead the new market. Within these themes, subthemes surfaced. When top leaders become the champion, the leader's characteristics were not considered as factors in the market entry decision. Internal champions impacted the decision based on their technical abilities and experiences. The impact of external champions was evaluated based on, both, their technical prowess and personality factors, likeability, customer service skill, etc. Identification of themes highlights similarities and differences amongst the 30 cases.

Next, patterns between codes were analyzed by reviewing which themes appeared together in multiple cases. Researchers were most interested in patterns that lead to more

successful outcomes and patterns that resulted in unsuccessful outcomes. From these patterns, testable correlations begin to form regarding what makes a market entry decision successful or unsuccessful.

4.4.6 Cross-Case Patterns

Identification of themes and patterns was completed for each of the eight code categories. The following subsections describe the findings for each category.

4.4.6.1 Decision Process

Most of the case study decisions did not use a structured decision-making process. Only two of the interviewees described formal processes: cost/benefit analysis and business plan development. In the cost/benefit process, the company president and three vice presidents brainstormed the potential costs and benefits (including financial and non-financial measures) of the market entry. The business plan approach required the company's top leaders to formally present a market assessment with financial projections and competitive outlooks to the board of directors, who ultimately made the decision.

Although not formalized, three process-related themes were identified from the 30 total cases: (1) assess strategic fit first, (2) start slow and grow conservatively, and (3) adapt and learn from experience. Of thirty total cases, five stressed the importance of assessing the strategic fit of the decision before any other factors. Ten cases considered their slow start and controlled, conservative growth to be an advantage citing ease of learning on smaller projects and limited losses as key reasons. Six cases mentioned the importance of adapting to and learning from challenges in the new market.

A significant pattern was identified when reviewing the decision processes. All five decision cases specifically emphasizing the importance of strategic fit received average or above average ratings of success.

4.4.6.2 Decision Makers

The top company leaders, including the company owner, president, or partners, were included in every studied case. Vice presidents served as decision makers in 17 percent of

cases. Additionally, a future market partner or champion, project manager, and staff took on a decision-making role in less than 5 percent of cases.

Market entry decisions were made by more than one person. Moreover, when interviewees were asked to rate the decision's success from one to five, decisions with heavy support and commitment from the top leaders in the company received an average rating of 4.4. Decisions with average or inconsistent company leader support averaged 2.5 out of five. These differences are statistically significant.

4.4.6.3 Factors Considered

The category code 'factors considered' identified each instance an interviewee described a decision factor during their market entry decision-making process. The 45 decision factors that were collected are shown in Table 5. Factors recorded during the interviews were combined for further analysis using a consensus building workshop activity (which will be described later in this report).

Table 5: List of Decision Factors Considered in Market Entry Case Studies

Acceptance by subcontractors	Existing relationships	Overhead savings
Availability of financial resources	Fabrication efficiency	Potential profits
Bonding agency acceptance	Five-year income projection	Reputation
Budget/initial scope	Global economic situation	Safety
Champion capabilities	Growth of potential market	Staff availability
Competitive advantage	Growth timeframe	Staff experience
Contract requirements	Industry acceptance	Standards and regulations
Core competencies	Industry trends	Strategic fit
Cultural fit	Job timeframes	Support from organization
Customer acceptance	Knowledge of market	Targeted growth
Delivery system	Labor commitment	Time savings for employees
Direct cost savings	Labor productivity	Training and learning curve
Direct startup costs	Market need	Willingness of leader to adapt
Distance	Market perception	Yearly budget
Existing competitiveness	Overhead costs	Yearly target earnings

4.4.6.4 Timeframes

Eighteen cases provided the timeframe used to make the decision. The amount of time spent considering each decision ranged from one day to 24 months. Decisions taking longer than

six months were three times more likely to be considered successful than decisions evaluated for fewer than six months. In light of this finding, a Mann-Whitney-Wilcoxon test was conducted to compare the median success rating on a scale of 1 to 5 for decision taking less than six months compared to those taking longer than six months. The one-tailed test returned a p-value of 0.075, which indicates statistical significance at alpha=0.1. It is understood that some market entry decision decisions do not have the luxury of time; however, when the decision is not pressing it is advisable to contemplate it for some time before making the final call.

4.4.6.5 Characteristics of the Champion

For this analysis, the champion is considered to be the person most responsible for leading the efforts in the new market. Twenty-four cases stated important characteristics of the champion. The champions of these 24 decisions originated from three different places: external champions, internal champions, and company leaders. Twelve champions were considered external champions, meaning at the time of the decision this person was not employed with the company. In these cases, the champion was chosen based on both technical experience and personality traits. Four champions were considered internal champions, meaning at the time of the decision, this person was employed at the company in a middle management role. In these cases, the champion was chosen based only on technical abilities; personality traits were not mentioned as a factor. Eight champions were considered company leader champions. In these cases, the company leader (president, owner, etc.) took on the role of champion.

The type of champion (external, internal or top leader) did not seem to influence the success rating of the decision. However, choosing the wrong new market champion was the most cited reason for unsuccessful market entry. As noted earlier, strong support and commitment from the top leader had a significant positive influence on the decision's success. Interestingly, some cases with the company leader acting as champion did not have strong commitment to the new market from said top leader. In these cases, the leader may have decided to enter a new market even though he or she had concerns about the effect of the new market entry on the company's existing markets.

On a related note, the wrong champion being the most cited reason for unsuccessful market entry, is not only clear in the case studies. Different research methods also led to the same conclusion, as will be discussed later in this report.

4.4.6.6 Motivation

Motivations for entering a new market varied greatly based on the circumstances. Although there were no patterns identified linking the motivation directly to the decision success or failure, the alignment analysis discussed previously found the lack of a clear motivation to be a strong indicator of an unsuccessful decision outcome. Some of the motivations for entering a new market include:

1. There is a constant need for a service that our company does not currently provide,
2. To gain control of staffing, schedule or product warranty,
3. A thoughtful idea came from a trade seminar/report, peer group, or employee,
4. To better provide for the customer,
5. To improve cash flow,
6. To reduce market risk by diversifying services or customer base, and
7. To make profit.

4.4.6.7 Measures of Success

All of the interviews included a discussion about the measures each decision maker used to retroactively evaluate the success of the market entry decision. The responses varied depending on the situation, and included:

1. Enhancement of company's core values,
2. Improvement in relationships,
3. Profitability,
4. Number of employees supported,
5. Length of time in market,
6. Competitive advantage,
7. "It feels right,"
8. Control over project,
9. Mitigation of market risk,
10. Sales volume,
11. Learn valuable lessons,
12. Market becomes ingrained in the company,
13. Speed of work, and

14. Growth.

There were no patterns identified between individual measures of success and any of the other identified themes.

4.4.6.8 Lessons Learned

The category of *Lessons Learned* was added during the interview process because there was a desire from participants to contribute to the industry by passing along their learning experiences. These lessons were collected and are featured in the ultimate decision-making framework. These lessons are provided in Table 6.

Table 6: Lessons Learned from Case Studies of 30 Market Entry Decisions

Accounting: Many had difficulties accounting for their new market. Be sure you can separate the new market from your other areas of work so you can clearly identify sales, costs, and overhead to ensure your forecasts are accurate. Questions to think about: Will your new customers have different invoicing expectations? Can your accounting system invoice fast enough and in enough detail for the customers in the new market?
Conservative start: those who were highly successful in entering a new market noted starting small (low dollar contracts and one project at a time) lessened the inevitable early learning pains. However, dipping a toe into a new market can cause customers to question your commitment. Consider both sides and try to find the right balance for your situation. Start as small as possible to minimize early mistakes or mishaps, while considering your ability to capture loyal clients.
Ability to plan: Some markets are more stable and easier to plan for than others. Recognize the uncertainty in the new market and the accuracy of your profit projections. An appropriate contingency budget is critical to cope with unexpected challenges.
Existing markets: Entry into a new market always impacts your existing markets. Anticipating the impacts the new market has on the company as a whole can help you to recognize ways to, not only gain a revenue stream from the new market, but also limit unintended consequences and possibly enhance sales in your current markets.
Labor issues: When expanding geographically or adding a trade, it is important to get a feel for the labor pool in the new location, including how the new union local treats unfamiliar faces. If you are worried you are not getting honest feedback from competitors in the area, this risk that should be identified in the decision process.
Cultural differences: Combining groups of people can cause unease and sometimes pushback. Uncertainty, especially when their livelihood is concerned, can impact people in unforeseeable ways. Getting through cultural differences takes a strong commitment from company leaders.
Learn from experiences and adapt: Expect changes and be flexible. The commitment to learn from challenges helped many contractors enhance their new market offerings and gain a competitive advantage after initial struggles.
Commitment is key: Commitment to your decision to enter or not to enter a market is a key indicator of success. If you are wavering for whatever reason, this market probably isn't right for you. On the other hand, if you have earnestly considered this framework and decided to enter the market, move forward with confidence and dedication.

Barriers to entry: The barriers you are overcoming to enter this new market will not hold forever. There are likely lessons you can learn today that will help you extend your competitive advantage in this market or successfully enter a new market in the future.
Have clear objectives: Knowing your motivation for entry is a proven key to success. Aligning your reasons for entering the market with how you are measuring success helps everyone clearly see whether goals are being met. When people understand the goals, they can adjust their actions to enhance success.

4.4.7 Success in Market Entry: Conclusions

To summarize the contributions from the multiple case studies, clear reasons for entering the market, strong support from the company leader, and analysis of strategic fit are strongly related with decision success. Choosing the wrong market champion was the most cited reason for unsuccessful market entry. Additionally, sheet metal contractors who spent more than six months considering their market entry decision were three times more likely to have a successful decision.

Diagramming each case study allowed the researchers to identify patters of alignment and misalignment. In addition to the patterns of success, the case studies provide a list of factors considered by sheet metal contractors when entering a new market. These factors, combined with those identified in the literature, produced a list of 23 relevant and independent factors.

These case study findings, along with the case study narratives, are embedded in the decision-making framework developed as part of this study. The intent is to encourage contractors to learn from these experiences by reviewing the narratives of the cases, creating an aligned process with strong leadership support and a clear vision, considering the decision factors found to be most important in the past, and taking their time to deliberate before action. The strength of the decision-making framework is grounded in part on the tested findings from this multiple case study.

At the same time, this was not the only research method used for this study. The decision factors uncovered from the case studies and the literature were compared and compiled to serve as the subject of further research through factor prioritization workshops.
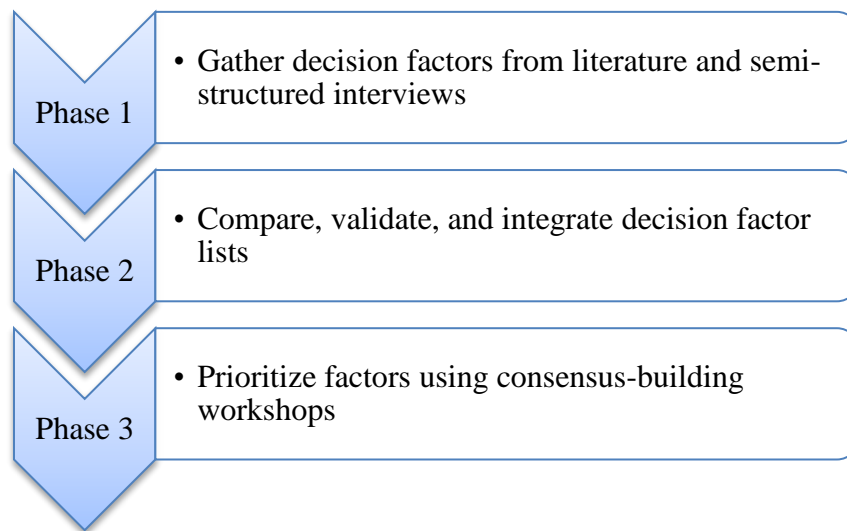
4.5 Factor Prioritization Workshops

Factors that are considered during the process of market entry decision-making are a main foundational element of this study. The ultimate framework is intended in part to help

contractors focus their time and energy on the specific factors that may have the largest impact on success. For that reason, a list of critical decision factors was compiled and then prioritized using a workshop method developed specifically for this study.

A three-phased approach was used to develop the prioritized list of decision factors. First, decision factors are gathered from the current literature on the subject. Then, the factors uncovered from the literature are compared and combined with the decision factors identified in the semi-structured interviews (discussed in the previous section) with experienced members of the sheet metal industry. Next, workshops designed to harness the collective knowledge of the industry are used to prioritize all of the decision factors. The general approach is shown visually by the flowchart in Figure 6. The following subsections describe, in detail, the methods used to identify and prioritize the key decision factors for domestic market entry in the sheet metal construction industry.

Phase 1
- Gather decision factors from literature and semi-structured interviews

Phase 2
- Compare, validate, and integrate decision factor lists

Phase 3
- Prioritize factors using consensus-building workshops

Figure 6: Three-Phased Approach to Prioritize Market Entry Decision Factors

4.5.1 Identifying Key Decision Factors

Key decision factors for market entry were identified from a combination of sources. First, an initial list of important factors to market entry in the construction industry was compiled from the existing decision aids found in the literature. Then, sheet metal industry professionals were interviewed about their previous market entry experiences for two reasons: (1) to validate the findings from the literature search by corroborating the results,

and (2) to uncover any decision factors that are specific to the sheet metal industry. Finally, the lists from the literature and industry interviews were combined into one comprehensive set of independent factors that are, or should be, regularly considered during market entry in the sheet metal construction industry.

4.5.2 Collection of Decision Factors

A literature search for market entry decision aids in the construction industry yielded eight results. All eight decisions aids were specifically designed for international market entry. Table 7 provides a list of decision factors used in each of the eight decision aids. After removing duplicates, the number of decision factors collected from the literature search totaled 53. Seven decision factors were removed because they were specifically intended to address international market entry decisions only. The removed factors include: relations with host government, government subsidy, relationship with government, inflation, taxation, security risks, and interest rate stability, all specifically related to the foreign country. The remaining 46 factors were validated through comparison with the results from semi-structured interviews.

To validate and augment the list of decision factors from the literature, the authors conducted semi-structured interviews with sheet metal industry professionals about 30 previous market entry experiences. The interviewees included mostly company presidents, but also partners, senior vice presidents and senior project managers. Each interviewee was asked to describe the decision factors considered during one or more specific instances in which their company considered entering a new market. The question was open-ended allowing interviewees to name as many factors as could be recalled. No examples were given by the interviewer to avoid biasing the results. The interviews resulted in a combined list of 45 decision factors from a total of 30 market entry experiences.

Out of these 45 factors, the same 40 factors appeared on both the list of decision factors from the semi-structured interviews and the list of decision factors found from the literature. This duplication rate of 89 percent indicates that the two decision factor lists are highly similar. Combining the lists and removing duplicates resulted in 51 market entry decision factors. This combined list of decision factors alone can be helpful to sheet metal professionals who are contemplating market entry by representing lessons learned from a

diverse group of experiences that are otherwise unavailable to contractors. However, this research goes even further to enhance this list by prioritizing the factors in order of their impact on the success of the market entry decision. Knowing which factors have the highest priority helps decision makers appropriately allocate their time and effort.

Table 7: Decision Factors in Existing International Market Entry Aids

Source	Factors
Han & Diekmann (2001)	Expropriation; War; Government control; Repudiation; Government subsidy; Relationship with government; Government act and regulation; Currency exchange; Currency restriction; Inflation; Burden of financing; Tax discrimination; Cultural differences; Language barrier; Different applicable law; Different dispute resolution; Force majeure; Protection of proprietary information; Difference in geography; Labor issues; Material availability; Subcontractor availability; Different standard; Different measurement system; Domestic requirement; Lack of management skill; Lack of experience; Warranty issue; Import/export regulation; Technology transfer; Lack of infrastructure; Public resistance; Environmental issues; Profits
Dikmen & Birgonul (2004)	Economic prosperity of host country; Host country risk; Cultural/religious similarities; Distance to host country; Attitude of host government; Construction demand in host country; Size of project; Type of project; Technical complexity of project; Type of client; Availability of funds for project; Contract type; Experience of company with similar works; Existence of strict time limitations; Existence of strict quality requirements; Intensity of competition
Gunhan & Arditi (2005)	Company management expertise; Company financial strength; Specialist expertise; International network; Track record; Equipment; material; labor availability; Inflation and currency inflation; Interest rate increase; Shortage of financial resources; Bribery in host country; Foreign competitors in the host country; Cultural differences; Loss of key employees; Technological advancement; Globalization and openness of markets; Availability of new service areas; Increased long-term profitability; Privatization in emerging economies; Beneficiary international agreements; Maintain shareholders' return; Competitive use of resources; Competitive advantage; Economic risk; Political risk; Financial risk; Operational risk-entry barriers; Taxation; Legal environment of host country; Security risks
Dikmen & Birgonul (2006)	Experience in same country; Experience in similar projects; Experience with same project participants; Availability of staff; Availability of financial resources; Availability of equipment; Managerial capabilities; Technical capabilities; Organizational capabilities; Relations with client; Relations with host government; Relations with suppliers; Competitive strategy; Type of project; Size of project; Project duration; Contract type; Payment type; Specific contract clauses; Economic prosperity of host country; Political conditions; Social conditions; Legal framework; Project location; Language; Religion; Culture; Climate/geography; Government
Ozorhon et al. (2006)	Country; Economic prosperity of host country; Host country risk; Cultural-religious similarities; Distance to host country; Attitude of host government; Construction demand of host country; Size of project; Type of project; Technical complexity of project; Type of client; Availability of funds for project; Contract type; Experience of company in similar works; Existence of strict time limitations; Intensity of competition; Potential profitability; Level of competitiveness
Cheng et al. (2011)	Monetary inflation; Bureaucratic delays; Type of partnership; Actual laws versus practices for repatriation of capital; Future market volume in core competency; Societal conflicts; Attitude toward foreign investors and profit; Competitive/negotiated bidding; Professional services other than construction; Tax and nontax incentives; Management abilities of local contractors; Availability and quality of local contractors; Availability of skilled and unskilled workers; Weather conditions and other natural causes of delay; Availability of basic construction equipment; Enforceability of construction contract; Penalty for duration delay; Change order; Insurance; Contract duration; Experiences of similar contracts; Potential profit

Tang et al. (2012)	Political factors; Legal factors; Cultural factors; Technical factors; Managerial/organizational factors; Economic factors; Environmental factors; Physical factors; Social factors; Corruption factors; "Other"
Kim et al. (2013)	Initial cost; Fixed cost; Variable cost; Capital structure of firm

4.5.3 Rearranging the List of Decision Factors

Before prioritization, the existing list of decision factors required modification to ensure each factor is relevant to the problem and independent from other factors. Some of the decision factors on the 51-factor list are specific to one type of market entry decision. For example, the factor "distance" is specific to geographical expansion and would not apply to a company adding a trade or performing a new type of construction. To ensure the decision factor list is applicable to several types of market entry decisions each factor was reviewed for its relevance within a broad definition of market entry decisions. Decision factors were also reviewed for independence. In prioritization or ranking exercises, the less dependence there is among factors, the less complex and more refined the result (Keeney 1981).

A collaborative discussion method was used to define relevant and independent decision factors for prioritization. This method follows the approach outlined in Smagorinsky (2008) as an alternative to independent corroboration in qualitative research. Independent corroboration is a process traditionally used in qualitative research to validate the coding of data. A second researcher is trained in the coding methods that were used; then, he or she codes 15 percent of the data. The codes are considered reliable if there is at least an 80 percent agreement rate with the initial coding. The second researcher's strict adherence to the coding systems prescribed by the first researcher is a major limitation of independent corroboration because the second researcher does not provide any additional expertise or perspective in designing the code structure.   In contrast, collaborative discussion similarly enlists a second researcher to corroborate, but allows both researchers to contribute to the analysis and coding of the results through thoughtful discussion and negotiation. For this study, collaborative discussion was used to capitalize on the experience of multiple researchers by developing the variable definitions together.

Decision factors were analyzed first for relevance then for independence. Relevance was determined based on the applicability of the factor to a variety of market entry decisions. Multiple perspectives and definitions for each factor were discussed.   After lengthy

negotiation, decision factors were removed based on relevance. Then, collaborative discussion was used again to combine and define the remaining factors such that the factors are independent. Absolute independence is impractical because interrelation between factors can change based on an individual's perspective and assessing the perspective of each participant would be unreasonably time consuming. For this reason, the researchers aimed for relatively independent definitions as perceived by most participants. The collaborative discussion resulted in a final list of 23 relatively independent decision factors, shown in Table 8 along with the original factors that were combined to create each factor. Additionally, feedback on the participants' perception of independence was solicited at the conclusion of each factor prioritization workshop. The participants felt the factors were clear and they could differentiate between them.

Table 8: Representative and Independent Final Decision Factors Compared to Original Factors

Final Factors	Original Factors
Bonding agency acceptance	Bonding agency acceptance
Competition in market	Existing competitiveness
Competitive advantage	Competitive advantage
Contract requirements	Contract requirements, Different dispute resolution, Liquidated damage policy
Customer acceptance	Existing relationships, Customer acceptance, Market perception
Delivery system/Contract type	Delivery system, Payment type
Experience and Abilities of Champion	Champion capabilities, Willingness of leader to adapt
Global economy	Global economic situation
Industry acceptance	Acceptance by subs, Industry acceptance
Investment capital	Availability of financial resources
Job timeframes	Job timeframes
Knowledge of market	Knowledge of market
Labor commitment	Labor commitment
Market need	Market need
Market trends	Growth of potential market, Environmental issues, Industry trends
Profit projections	Potential profits, Overhead costs, Overhead savings, Targeted growth, Yearly budget, Five-year income projection, Yearly target earnings, Direct cost savings
Reputation	Reputation
Staff availability	Staff availability
Standards and regulations	Standards and regulations
Startup costs	Equipment availability, Budget/initial scope, Direct start-up costs
Strategic fit	Core competencies, Cultural fit, Strategic fit
Support from organization	Support from organization
Training and learning curve	Staff experience, Training and learning curve

4.5.4 Factor Prioritization Workshop Method

The researchers developed a three-step workshop approach to prioritize the 23 identified decision factors. The approach relies on current sheet metal contractors' experiences, both as individuals and as a group. First, participant contractors from the sheet metal industry were given a real scenario about a market entry opportunity and were asked to individually rank the top ten decision factors based on importance to the decision's success, by choosing from the given list of 23 factors. Next, the participants were combined into groups of five to eight individuals and asked to repeat the prioritization exercise, this time leading to a group consensus on ranking the top ten factors for the decision. Finally, the factors were assigned a score based on each groups' rankings, and a combined top-ten list of factors was created for the overall session by combining the scores of all participating contractor groups.

Gathering a group of industry experts for workshops in a collaborative and structured atmosphere allows for the collection of data using several strategies during a single session and creating "buy-in" from participants (Gibson and Whittington 2010). Each workshop was held as a breakout session in or around an existing event. By combining with an existing event, participants were more willing to attend because they had already planned on taking time away from their everyday responsibilities for the larger event. Two trade association conventions, one professional development course, and a chapter meeting for a trade association were chosen to be the event hosts for these workshops.

The workshop approach was conducted using four different real scenarios that were drawn from the aforementioned structured interviews. Each scenario involved a different type of market entry decision: adding HVAC service, adding a new trade, expanding geographically, and taking on a new type of project. Diverse types of market entry decisions were used to understand whether different factors appear depending on the type of decision at hand.

Figure 7 shows an example presentation slide with the scenario for adding HVAC service. The choice was made to base the scenario on a small company with 12 employees and $10 million in revenues per year. This choice was made to represent an average sheet metal construction firm in the U.S., in accordance with a goal set early in this study: ensuring the resulting framework is scalable and usable by both small and large contractors.

The Scenario

Matt is the president of XYZ Contractors, a sheet metal contracting firm that consists of 12 employees and has $10 million in revenues per year. For the last 15 years, XYZ had maintained one staff member to perform service for current customers, but the company did not competitively bid for service contracts. After seeing how a peer company's service department helped them maintain balance during the recession years, Matt is considering moving into the service contracting business.

At XYZ's leadership meeting, Matt presented the idea of service contracting to his vice president and field supervisor. The leadership group was receptive to the idea but needed more information before they would make the decision to enter the service contracting market. They decided to spend the next month gathering the relevant information, and reconsider the proposal at the next leadership meeting.

Figure 7: Hypothetical "Adding HVAC Service" Scenario Presented for Consideration as Part of a Workshop to Prioritize Decision Factors

In addition to the decision scenario, the list of 23 decision factors shown in Table 8 was presented to participants, along with short definitions of each term. First, each individual was tasked with ranking, based on their experience, the top ten factors that would contribute to the success of the scenario decision being made. After completing the individual task, participants were combined into small groups and again to provide a consensus ranked list of top ten factors. The researchers stated the resulting prioritized list must be a group consensus, but no further guidance was given about how to form a consensus.

According to Bottger and Yetton (1988), small groups perform better than the average individual in evaluative problems similar to this activity. Depending on the overlap of knowledge by individuals in the group, the group often outperforms the most knowledgeable individual of that group. The reason for holding individual prioritizations before splitting into small groups is to ensure that each participant has time to process all of the information and develop a personal ranking before deliberating with others.

After the small groups finished their deliberations, decision factors were scored based on their rankings. Ten points were given to every factor ranked first, nine points to factors ranked second, and so on until one point was given for every factor ranked tenth. Unranked factors received no score. The scores from all group rankings were summed,

arranged from highest to lowest score, and immediately reported to all of the industry participants during the workshop session. The prioritized list was presented in real-time during the session to give participants the opportunity to examine the list and voice any comments and thoughts.

4.5.5 Results from Four Workshops

In total, over 130 industry professionals participated in four workshops. Forty-five percent of the participants were considered company leaders (owner, president, partner, CEO), 34 percent were considered upper management (executive vice president, divisional manager, COO, CFO), 14 percent were senior project managers, and 8 percent were project managers, as shown in Figure 8. Participants have considerable experience working in the construction industry and most are from the sheet metal specialty.
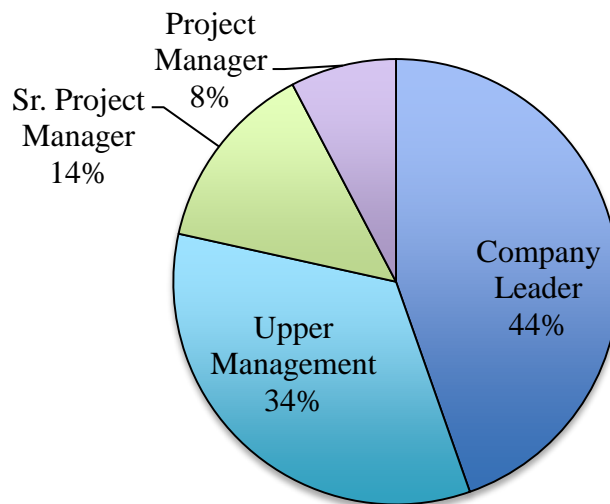
Figure 8: Demographics of workshop participants

Table 9 shows both the individual and group average scores and standard deviations (SD) for each factor prioritization workshop. An asterisk in the "Group SD" column marks the situation when the standard deviation for the group scores is less than that for the individual scores. This situation is unexpected given the sample size of the groups (e.g., 5 groups) is much smaller than the sample size of individuals (e.g. 40 individuals). Note, the denominator, N-1, in the standard deviation (SD) formula:

$$SD = \sqrt{\frac{\sum_{i=1}^{N}(x_i - \mu)^2}{N - 1}}$$

where x_i is the score, μ is the average score, and N is the number of scores. Given the number of individuals scoring each decision factor was larger than the number of groups, it would be expected that the individual standard deviation would be smaller than the group standard deviation, given the same deviation from the mean. However, 82.6 percent of the time, the individual standard deviation was found to be larger than the group standard deviation. This narrowing of the score distribution indicates convergence toward a strong group consensus for the top 10 factors. In other words, combining the experiences of several individuals during small group discussions creates a more defined and less variable ranking, as opposed to simply polling individuals without providing the opportunity for discussion with others. This finding adds rigor and certainty to the final rankings.

Finally, combining the group scores provides the overall workshop rankings. The top-ten decision factors from each of the four factor prioritization workshops are shown together in Figure 9. The factors are color-coded from darkest (4) to lightest (1) based on the number of times each factor appears on a workshop's top ten list. Of the 23 decision factors, four appear on all of the top-ten lists: strategic fit, experience and abilities of champion, market need, and investment capital. Another four decision factors appear on three of the four top-ten lists: profit projections, start-up costs, competition in market, and competitive advantage. That means a total of eight factors consistently appear on top ten lists, no matter what type of market-entry decision is being made; the research team called these the "Essential Eight." Conversely, seven other decision factors did not reach any of the top-ten lists.

Table 9: Ranking Results of Four Prioritization Workshops

Factor	New project type/market sector				Add a trade				Expand geographically				Add HVAC service			
	Avg. Indiv. Score	Avg. Group Score	Indiv. SD	Group SD	Avg. Indiv. Score	Avg. Group Score	Indiv. SD	Group SD	Avg. Indiv. Score	Avg. Group Score	Indiv. SD	Group SD	Avg. Indiv. Score	Avg. Group Score	Indiv. SD	Group SD
Bonding agency acceptance	2.50	**3.75**	3.97	1.73*	0.95	**0.63**	3.06	*	1.59	**0.57**	2.85	1.41*	0.18	**0.13**	0.00	*
Competition in market	2.64	**0.00**	3.06	*	3.97	**5.13**	2.44	2.79	4.68	**3.86**	3.17	3.20	6.09	**4.38**	2.48	0.96*
Competitive advantage	3.21	**0.50**	2.44	*	2.54	**3.25**	2.90	1.92*	2.15	**3.57**	2.97	3.50	2.68	**3.88**	3.14	1.71*
Contract requirements	2.50	**3.25**	2.22	2.12*	0.00	**0.00**		*	1.18	**0.14**	2.63	*	0.27	**0.75**	2.83	2.83*
Customer acceptance	1.64	**3.00**	2.87	2.83*	3.68	**2.88**	2.51	3.65	2.62	**0.29**	3.25	*	2.95	**2.25**	2.83	2.10*
Delivery system/contract type	0.21	**0.25**	0.71	*	0.18	**0.00**	2.31	*	0.68	**0.86**	1.96	0.00*	0.45	**0.00**	2.52	*
Experience and abilities of champion	3.57	**6.00**	2.48	1.00*	3.15	**4.38**	2.67	2.23*	5.82	**8.71**	2.62	1.11*	5.86	**6.13**	2.40	1.29*
Global economy	0.00	**0.00**		*	0.21	**0.00**		*	0.09	**0.14**		*	0.18	**0.00**		*
Industry acceptance	0.21	**0.00**	0.71	*	1.96	**1.75**	2.64	1.15*	0.82	**0.00**	3.14	*	0.27	**0.00**	1.00	*
Investment capital	4.21	**6.25**	2.19	0.96*	4.68	**6.00**	2.88	2.39*	2.57	**3.29**	2.51	2.06*	4.05	**3.13**	2.15	3.10
Job timeframes	1.57	**1.00**	1.51	1.41*	0.08	**0.00**		*	0.62	**0.14**	2.39	*	0.00	**0.00**		*
Knowledge of market	2.79	**1.25**	2.42	*	3.08	**0.75**	2.40	1.73*	3.97	**5.71**	2.93	2.55*	3.50	**1.25**	1.89	2.08
Labor commitment	1.57	**1.50**	3.44	1.41*	2.26	**1.63**	2.28	3.30	2.06	**2.57**	2.50	2.08*	2.27	**3.13**	2.38	2.83
Market need	2.00	**2.50**	1.15	*	3.92	**2.63**	3.33	3.46	3.76	**6.29**	2.74	2.16*	5.73	**6.63**	2.06	1.47*
Market trends	2.00	**2.50**	1.15	*	1.28	**1.75**	2.83	2.83*	1.35	**0.86**	2.37	*	0.45	**0.38**	1.41	0.71*
Profit projections	3.64	**3.25**	3.15	4.16	4.51	**5.88**	3.14	2.56*	2.22	**1.71**	3.18	2.65*	4.09	**5.50**	2.25	1.51*
Reputation	0.43	**0.00**	2.83	*	0.55	**0.00**	1.92	*	0.53	**0.00**	4.36	*	0.86	**0.25**	3.03	*
Staff availability	2.43	**2.00**	2.28	0.00*	3.03	**2.75**	2.37	1.07*	5.57	**5.57**	2.24	1.72*	2.86	**2.13**	2.11	0.96*
Standards and regulations	1.93	**2.25**	2.81	*	0.82	**0.00**	2.94	*	1.79	**2.43**	2.21	1.52*	0.41	**0.38**	2.12	*
Start-up costs	3.07	**2.75**	2.83	3.79	5.27	**5.63**	2.54	2.35*	4.26	**2.29**	2.57	1.41*	3.68	**4.38**	2.44	2.83
Strategic fit	6.57	**9.25**	3.15	1.50*	5.14	**7.38**	2.86	3.25	3.15	**4.29**	3.62	3.15*	3.59	**5.88**	3.12	2.56*
Support from organization	0.86	**0.00**	1.73	*	2.18	**1.88**	3.12	2.12*	1.79	**0.00**	2.79	*	3.23	**2.88**	2.78	3.06
Training and learning curve	2.29	**0.75**	2.30	*	1.26	**0.75**	2.24	0.58*	1.69	**1.71**	1.91	3.00	1.05	**1.50**	1.96	2.65

*Individual standard deviation greater than group standard deviation

Rank	New project type / market sector	Add a trade	Expand geographically	Add HVAC service
1	Strategic fit	Strategic fit	Experience and abilities of champion	Market need
2	Investment capital	Investment capital	Market need	Experience and abilities of champion
3	Experience and abilities of champion	Profit projections	Knowledge of market	Strategic fit
4	Cash flow	Start-up costs	Staff availability	Profit projections
5	Bonding company acceptance	Competition in market	Strategic fit	Competition in market
6	Contract requirements	Experience and abilities of champion	Competition in market	Start-up costs
7	Profit projections	Competitive advantage	Competitive advantage	Competitive advantage
8	Customer acceptance	Customer acceptance	Investment capital	Investment capital
9	Start-up costs	Staff availability	Labor commitment	Labor commitment
10	Market need	Market need	Standards and regulations	Support from organization

Number of workshops ranking this factor: 1   2   3   4

Figure 9: Top-Ten Decision Factors for Success in Market Entry Decision-Making

By combining the knowledge in the literature and the experience of many professionals in the sheet metal industry, the research team identified the key factors that will need to be addressed thoroughly for all major types of market entry decisions. Strategic fit, and experience and abilities of the champion have appeared on every prioritization

workshop's top-ten factors list and have never fallen below the number six position, in most cases being in the top three. The consensus results show these two factors stand out above the rest when entering a new market. However, only two out of 108 individuals identified strategic fit, and experience and abilities of the champion as the top two most important factors to market entry success. A total of 20 individuals (out of 108) had both of these factors ranked in their top six most important factors, and fewer than half, 52 of 108, had both in their top ten. Without sharing knowledge and discussing their opinions with other industry professionals, more than half of the participating individuals would have likely overlooked one of the two most critical factors to their success in market entry. Only 13 percent of the priority lists created by individuals included all four of the factors that appear on every session's top-ten list (strategic fit, experience and abilities of the champion, investment capital, and market need).

These results show the importance of seeking out knowledge and experience from others when making market entry decisions. Without discussion with peers and integrating the knowledge gained from many diverse experiences, individuals may struggle to decide on the factors most important to their future success in a new market. In addition to identifying the top decision factors, another recommendation resulting from this analysis is for a contractor to involve the company's leadership team and make market entry decisions in a group setting and not individually.

To summarize, the following list of eight factors has appeared on most workshops' top ten lists:

- Strategic fit
- Experience and abilities of the champion
- Investment capital
- Market need
- Competition in the market
- Competitive advantage
- Profit projections
- Start-up costs

Experienced sheet metal professionals consider these *essential eight* factors as highly important to the success of market entry decisions. This knowledge, based on the knowledge in the literature and the collective experience of the sheet metal industry, can help sheet

metal contractors identify the factors that can have a significant impact to their success when deciding to enter a new market.

Section 5. Framework Development

Data collection and analysis, as described in the previous sections, address the first two objectives of this research: (1) determine the current processes and best practices used for market entry decision-making in the sheet metal industry, and (2) identify motivations leading to market entry by sheet metal contractors. This section describes how the previous findings are combined to meet the third objective: (3) develop a structured decision-making framework to guide market entry decision and meet the needs of contractors. The goal of framework development is to use as many elements of current practice as possible to create a tool that is intuitive and practical for sheet metal contractors. A number of experts in the sheet metal industry were engaged in an iterative process of tool development, feedback, and modification. Details of these iterations with industry experts are provided in a later section discussing the applicability of the framework.

5.1 Target Audience and Tone

The industry survey found the company leader and upper management to be the most common decision makers in market entry decisions. In agreement with the survey, semi-structured interviews found the company leader was present in all market entry decisions studied and other members of upper management assumed a decision-making role 73 percent of the time. For this reason, the framework was designed for company leaders and upper managers of sheet metal construction organizations. This means the framework assumes the user has a working knowledge of the overall strategic direction of the company; relationships with bankers, insurers, accountants, etc.; access to company financial information; and influence to motivate employees to act on the decision. The framework was developed with the end-user in mind.

5.2 Introductory Material

The introductory section of the framework first describes the intended use: to serve both a regular planning cycle and an impromptu decision-making opportunity. This intention was set because the case studies and survey found market entry decisions in the sheet metal industry rarely occur as part of an organized planning program and are most often handled in an ad hoc fashion. Twenty-eight of the thirty case study decisions (93%) came about from

an unexpected opportunity rather than a planned strategic effort. Only 37 percent of survey respondents and 23 percent of the case studies answered "yes" to having a company strategic plan. Given that strategic fit was found to be the most important factor when making a market entry decision, having a strategic plan in place is a natural starting point.

Next, the introduction section uses the research to motivate use of the framework. The motivation is firmly grounded in the literature and data analysis. The published literature suggests a standard decision process leads to better outcomes (Brinckmann et al. 2010, Dean and Sharfman 1996, Papadakis and Barwise 1998). However, only 6 percent of survey respondents and 7 percent of the case study decisions used a formalized, written decision process.

The section also describes the scope of the framework, using a significantly modified version of the Product-Market Strategy Matrix originally developed by Ansoff (1957). The matrix used for the framework is presented in Figure 10. The framework was intended to serve those making a decision in the top-right or bottom-left quadrants.

		Where we work/ Who we work with	
		Same	**New**
What we do	**Same**	Not considered market entry (not applicable)	o Geographical expansion o Size of projects o Type of projects o Type of customers
	New	o Add a new trade o Add HVAC service o New technology o New process	Too much risk (not applicable)

Figure 10: Research Scoping Matrix Shows a Focus on Market Entry Decisions in the Top-Right and Bottom-Left Quadrants (Adapted from Ansoff 1957)

Growing market share (top-left) was not considered by this study to qualify as "market entry" because these contractors do not change the type of products or services nor

the customer base served. Fully diversifying by offering a new product to an unfamiliar customer base has been shown to be very risky in the construction industry, so the framework encourages contractors to consider a less risky approach.

5.3 Decision Phases

After the introductory material, the framework follows a three-phased structured process, shown along the left side of Figure 11. The phases are based loosely on the findings from Price (2003), which describes a four-phased strategic management framework developed from nine case studies of large construction companies. Expert advisors from the sheet metal industry were presented with the four phases from Price (2003) –strategic review, data collection and analysis, strategic planning, and implement strategy. After modifying the language to fit that of the specialty contracting industry and combining the last two phases, definition (Phase 1), analysis (Phase 2), and planning (Phase 3) were selected to represent the current best practice in the industry. These phases were compared to the processes sheet metal contractors used in the case study decisions and were found to be inclusive of the current industry methods.

5.4 Decision Steps

While developing the steps that define each decision phase, the advice from Price (2003) was noted, "Given that there are many different approaches to strategic development, care must be taken to ensure that any recommended frameworks or processes are not over prescriptive but permit a degree of flexibility that ensures the characteristics and needs of individual [organizations] are taken into account." The current framework was designed as a thinking guide to ensure contractors consider the often-overlooked elements that impact market entry success, and not as an overly prescribed, rigid process. To maintain this intention, the steps and tools provided to accomplish each step can be used as a starting point but are flexible and can be modified as needed.

The ten steps imbedded in the three-phased approach originate from the most common market entry issues identified during the data collection and analysis phases of this research study. Phase 1, Definition, consists of three steps: (1) Understand Today's Company, (2) Define the Decision, and (3) Choose Decision Makers and Advisors. These steps

come directly from patterns in the multiple case study analysis. Decisions that started with an assessment of strategic fit, had clearly defined decisions, and clear intentions were more likely to be rated as successful, as compared to those that did not. No effect on success could be traced to the identity of the decision makers or advisors, except that groups perform better than individuals, so Step 3 provides lists of people who have historically participated in decision-making and advising groups.

Phase 2, Analysis, contains steps 4 through 8: (4) Review Experiences of Others, (5) Lessons Learned, (6) Assess Key Factors, (7) Identify Challenges, and (8) Determine the Exit Strategy. Steps 4 and 5 address the learning from Lovallo et al. (2012), considering a larger number of analogous decisions can improve forecasting and creativity in developing alternatives. Step 4 directs contractors to think of examples from their own experience and the experience of others to broaden their perspective. The case study narratives for each of the 30 decisions in this research are provided as an appendix to the framework to aid in this step. Decision-makers are encouraged to review these stories of peers that made similar decisions. Step 5 summarized the lessons learned from several case study decisions to reiterate the most common challenges. Steps 6 through 8 focus on the details of the decision at hand. The assessment of decision factors in Step 6 provides tools to assess the *essential eight* factors as determined through the prioritization workshops. Steps 7 and 8 were included to address specific issues experienced time and again by industry experts. These steps are designed to combat "groupthink", a group decision-making bias to seek concurrence over rationality (Janis 1973), while brainstorming potential challenges and planning ahead of time to tackle any challenges that may arise.

Phase 3, Planning, concludes the process with Steps 9 and 10: (9) Define Action Items and Timeline, and (10) Create the Implementation Strategy. These items were not present in the case studies, but are regularly cited as best practices in the literature.
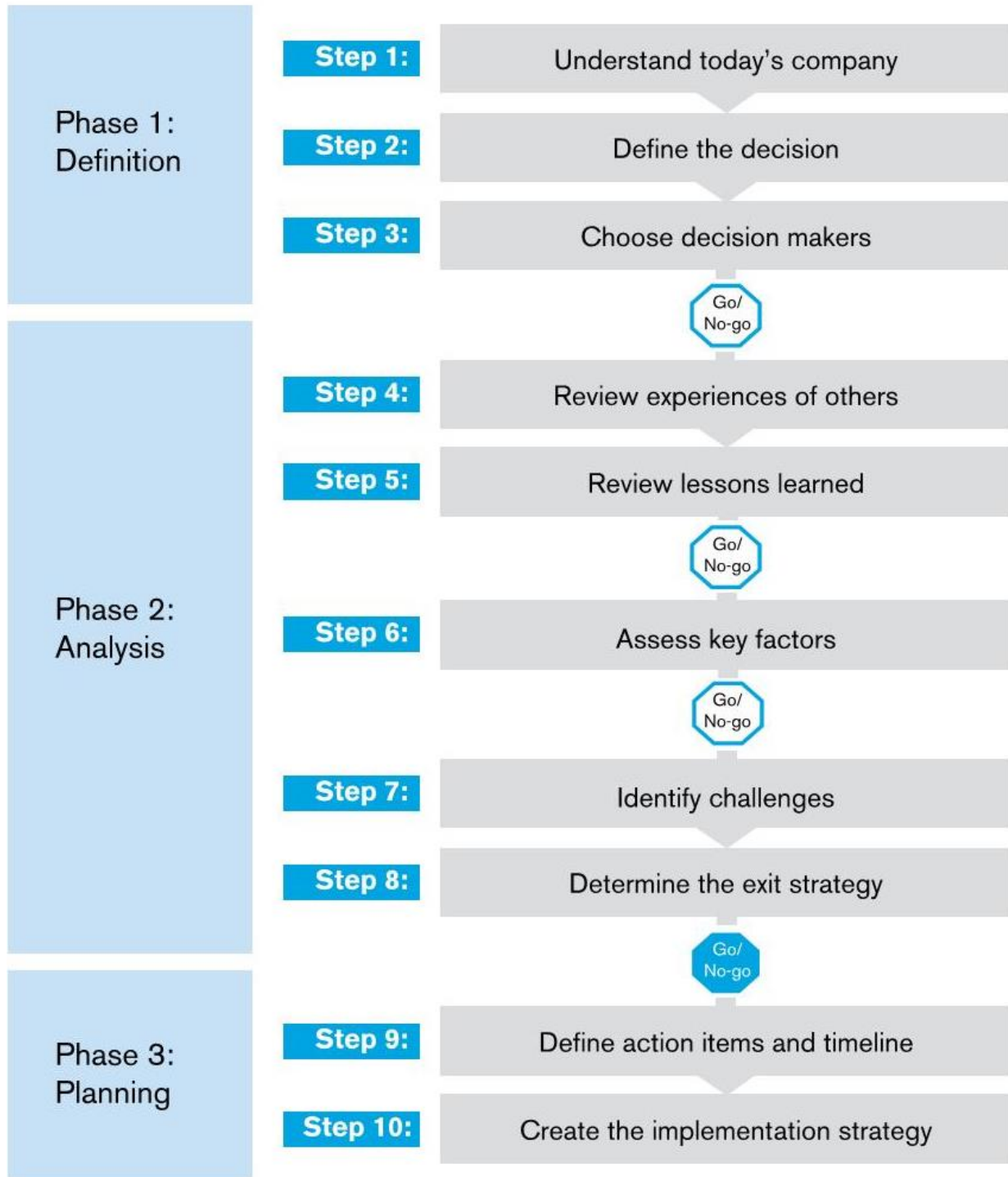
Figure 11: NHF Market Entry Decision-Making Flowchart for the Sheet Metal Industry

Also included in the process flowchart are four "go/no go" decision points, sometimes called phase gates, which are represented by octagons. At these points, contractors are asked to reflect on the assessment process. Choosing "go" means the contractor believes it is worthwhile to continue analyzing the market. Choosing "no-go" means critical issues have come up making it impractical to continue. Pausing periodically to reflect at logical points in the process is intended to encourage a thoughtful approach to making a successful market entry decision.

The steps and go/no-go points provide a practical approach to market entry decision-making. Very few sheet metal contractors have a standard decision process within their organizations. Through this framework, the New Horizons Foundation provides a proven structured approach for all contractors to improve their decision-making capabilities when assessing new market opportunities.

5.5 Applicability of the Framework

A number of experienced industry professionals reviewed the framework several times at different intervals throughout the development phase, and then during two independent sessions after it was finalized. This section discusses the details of this feedback and the types of changes made based on the comments received.

The industry members that attended the review sessions are business leaders in the sheet metal industry and have held a variety of position in the construction industry including positions as company owners and presidents. Each has experience making both successful and unsuccessful market entry decisions. Several days before the session, attendees were sent a copy of the final decision-making framework for review.

At the first review session, reviewers were asked to provide their initial impression of the tool and its usefulness. These industry members were aware of the research study but had never before seen a draft of the framework. Initial impressions were positive stating "the framework looks much like I expected and hoped for" and "the exit strategy step alone would have helped my company stay away from some bad decisions". After initial thoughts were recorded, the group walked page-by-page through the framework document. Suggestions about aesthetics, terminology common to contractors, and document navigation were provided. One industry member provided an additional tool to help contractors understand when a market exit is necessary. Another industry member requested an appendix that

elaborates on the development of the *essential eight* decision factors. All of the suggested changes were incorporated into the framework before the second review and application session.

The reviewers that attended the second session were not present at the first review session. These industry members were sent the revised framework several days before the session and were asked to reflect on a market entry decision they had made in the past and retroactively apply the steps presented in the framework. During the session, the group walked through the framework page-by-page and the reviewers were asked to talk through their application of the framework to a past market entry decision.

One reviewer applied the framework to the decision to expand service through the application of a new software package with advanced 3D modeling capabilities. This business leader found the framework easy to use and helpful with organizing thoughts and information through the decision-making process. Although it was already present in the framework, a stronger emphasis on seeking outside advisement was requested. This was based on many successful experiences in soliciting the perspective of people outside of the company. Additionally, the business leader requested more attention on accounts receivable. This is a significant issue in the construction industry because of the lag in payment for services, especially for those working as subcontractors. Sheet metal contractors entering a new market should be reminded of the cash flow issues from payment lag, and they should be advised to have a plan in place to address this issue.

Another reviewer applied the framework to the decision to add electrical contracting to the company through an acquisition. The framework was found to be applicable to the situation and the information requested by the imbedded tools was reasonable. This business leader suggested several steps in the process be rearranged and presented in an order that follows the typical financial planning process used by contractors on an annual basis. This reviewer also suggested an implementation strategy successfully used in his company, which provides a disciplined approach to implementing change.

All reviewers provided feedback about the usefulness, applicability and ability of contractors to complete each step of the framework. The reviewers found the framework informative and useful in highlighting the most important considerations in market entry. Based on the feedback, tools used to assess investment capital and develop an

implementation strategy were simplified to serve a wider variety of organizational structures. Otherwise, the content was considered appropriate and beneficial. By applying decisions retro-actively, reviewers noticed opportunities to rearrange the order of the decision steps and tools to provide a more logical flow of information. For example, the framework originally presented the *essential eight* decision factors in order of their importance, as ranked in the prioritization workshops. With the help of two business leaders, these factors were reordered to logically follow a contractor's annual financial planning process: (1) estimate costs, (2) estimate profits, and (3) determine sources of capital to cover any deficit. Reordering the steps and tools as suggested produced the final framework flowchart as it is presented in this article.

After changes were made based on the second session, all expert industry reviewers were provided the framework for a final review. The reviewers found the resulting framework to be practical, easy to use, and helpful to guide market entry decisions, based on their many years of leadership experience in the sheet metal construction industry.

Section 6. Conclusion

The framework outlined by the flowchart in Figure 11 provides sheet metal contractors with a structured approach to tackle the complexities of market entry. The framework is grounded in the current practices of the industry. In fact, the 93 survey respondents, 30 case studies, over 130 industry professionals engaged in four workshops, and three panels of industry experts and leaders, were leveraged provide valuable knowledge that will guide market entry decisions specific to sheet metal contractors By engaging industry professionals in as many forms as possible, the framework reflects a process that aligns with industry norms, while also allowing to triangulate and confirm the findings throughout the entire research process. In addition to designing the processes and tools with industry input, leaders in sheet metal construction with market entry experience provided feedback and applicability verification for the framework based on many years of experience.

The decision-making framework from this study was targeted specifically to sheet metal contractors because of a strong interest from the industry and willingness to participate in the research. Upon reviewing the result, many sheet metal contractors have noted, a similar process may apply to many parts of their business, even other trades such as electrical, piping, or mechanical divisions. This gives reason to believe there may be applicability in other specialty contracting organizations beyond the sheet metal industry, although the extent to which the framework is generalizable is unknown based on the scope of this research alone. Future studies might discover additional uses or adaptations of this framework to fit other specialty trades or general contractors.

6.1 Summary of Research Methods

To create a market entry decision-making framework, five data collection sources were used to compile insights from over 100 published sources and over 250 experienced industry members through an industry survey, semi-structured interviews, factor prioritization workshops, and expert panel discussions.

Three objectives were achieved in this research study:

1. Determine the current processes and best practices used for market entry decision-making in the sheet metal industry,

2. Identify motivations leading to market entry by sheet metal contractors, and

3. Develop a standardized decision process that improves market entry decision outcomes.

The first two objectives were addressed through case study and prioritization workshop analyses. The third was addressed by compiling the findings into a user-friendly decision support framework.

The major findings from the multiple case study approach included a list of decision factors, an understanding of current practice, and the identification of patterns correlated with success. The factors considered by sheet metal contractors when making market entry decisions informed the research team about the specific concerns of the sheet metal industry. Eighty-nine percent of the factors identified in peer sheet metal contractors' stories overlapped with findings from current decision aids published in the literature, which provides further reinforcement. Building on the factors considered, an alignment analysis of the entire decision process for each case provided an understanding of current decision-making practices. From the alignment analysis, the research found that unclear motivations for entering the new market lead to lower success ratings. Additional patterns were identified through a cross-case analysis. Early assessment of strategic fit and support from the top company leader led to successful outcomes; meanwhile having the wrong market champion was the most cited reason for an unsuccessful market entry.

The factor prioritization workshops provided the top factors contributing to decision success for four different types of market entry decisions. These lists are based on the synthesis of knowledge from more than 130 industry professionals. Comparing the top ten decision factors lists from four different workshops allowed the research team to identify the *essential eight* market entry decision factors. Competition in the market, competitive advantage, experience and abilities of the champion, investment capital, market need, profit projections, start-up costs, and strategic fit consistently ranked in the top ten most important factors to market entry success. Although strategic fit and experience and abilities of the champion ranked as the top two factors for market entry decisions, most individuals failed to recognize these factors as the most important without the structure of the prioritization workshops. This result indicates that the workshops, as designed for this study, are effective in focusing results toward an industry consensus, as measured by a decreasing variance of the scores. Moreover, the results provide further motivation to make market entry decisions

as part of a group; for example, with the company's leadership team as opposed to individually.

6.2 Research Questions and Answers

Findings resulting from analyzing the combined data sources provide answers to seven of eight research questions posed by this study. Each research question was examined using multiple data sources allowing for triangulation. Triangulation is the use of multiple methods or data sources to study a single phenomenon (Denzin 1970). Similar findings from multiple data sources increase the credibility of the results.

The first research question, "Who is typically involved in making market entry decisions?", was explored through the industry survey, semi-structured interviews, and literature. Eighty-eight percent of survey respondents and 100 percent of the semi-structured interviews declared the company leader (owner, president and/or CEO) was involved in making market entry decisions for the company. Other members of upper management (division leader, vice president, COO, and/or CFO) were cited as decision makers by 72 percent of survey respondents and 73 percent of semi-structured interviews. Other decision makers include senior project managers (34% survey, 10% interview), peer group (14% survey, 13% interview), and other external advisors (9% survey, 7% interview). The literature cited senior level managers and company executives as market entry decision makers. The industry survey, semi-structured interviews, and literature each point to the company leader and upper level management as the most likely decision makers for market entry decisions in the sheet metal industry.

The second research question, "What are the major factors sheet metal contractors consider before entering a new market?", was explored through a review of the literature and semi-structured interviews. Forty-six factors were found in the literature and 45 factors were named during semi-structured interviews. Forty factors (89%) overlapped between these two sources, appearing on both lists. The factors were further analyzed through prioritization workshops that involved more than 130 industry members. The workshops resulted in the *essential eight* decision factors (strategic fit, experience and abilities of the champion, market need, competition in the market, competitive advantage, start-up costs,

profit projections, and investment capital), which appear consistently as top priority factors in various types of market entry decisions.

The third research question, "What are common timeframes for making market entry decisions?" was explored through semi-structured interviews and expert panel discussions. Majority of the interviews (65%) indicate market entry decisions take longer than six months of deliberation. Two expert panels agreed that the six-month timeframe is reasonable based on their industry experience. However, the experts felt prescribing a timeframe in which contractors *should* deliberate does not make sense in many situations because often the contractor cannot control how much time is allotted. For example, an opportunity to acquire a company may only be on the table for a month or two. This said, the decisions that were deliberated over 6 months or more were much more successful than the decisions that took less than six months.

The fourth question, "How do sheet metal contractors grow through market entry?" was addressed in the literature, industry survey, semi-structured interviews, and expert panels. Price (2003) provides a four-phased approach to strategic decision-making developed through case study analysis of large construction companies and consultants. This study's survey and interviews indicate that few sheet metal contractors have such a formal approach. Only 6 percent of survey respondents and 7 percent of interviewees indicate a written, formal decision process is used by their sheet metal construction firm to make market entry decisions. Experts agree stating the strengths of specialty contractors typically lie in construction operations, and often not in strategic business management, which motivates the need for this framework.

The fifth research question, "Why do sheet metal contractors grow through market entry?", was addressed in both semi-structured interviews and panel discussions. The findings from both sources varied greatly and were specific to each decision's circumstances. Some of these examples are highlighted in Step 2 of the framework.

The sixth research question, "What are the most common types of market entry attempted by sheet metal contractors?" was addressed in the survey and in interviews. The research identified the common types of market entry: expand geographically, add a trade, new market sector, and add HVAC service. However, the ranking of these common decisions was not consistent among the data sources. The most commonly cited type of market entry

in the interviews, adding a trade, was the least common type of market entry according to the survey. The intent from this question was to identify the most common type of market entry decision in order to focus on it when creating the framework. However, this does not matter as much since the workshop results showed the *Essential Eight* decision factors apply to any type of market entry decision, and therefore the research team created a unified framework that works for different market entry decisions.

Similarly, the seventh research question, "How often are sheet metal contractors successful in entering a new market?", did not have consistent findings among the data sources. Interviews found decision success in 16 of 30 cases, but the literature suggests only 1 in 5 market entries end successfully. This is likely the result of respondent bias to focus on and voluntarily report on successful decisions rather than unsuccessful ones. Moreover, some of the unsuccessful decisions lead to bankrupting the whole company, which may also be another reason for this discrepancy.

Finally, the eighth research question, "Does a standard framework improve the market entry decision-making process?", was addressed in interviews, expert panels, and published literature. The findings from all sources clearly show that using a standard process improves the likelihood of success. Moreover, the framework was tested retroactively and the participants expressed that if they had this standard process while making their market entry decisions, they would have avoided costly mistakes.

The findings from each of the first research questions are summarized in Table 10. The questions correspond to the three original objectives of this study.

A framework for market entry decision-making specifically tailored to the sheet metal industry was developed, based on the input from many industry members at several points in the research process. The resulting ten-step framework is available as a standalone document through the New Horizons Foundation; it helps contractors structure the decision process and focus on the elements of the decision that will likely have the largest impact on the outcome.

The authors would like to thank all the industry members that have contributed countless hours sharing their knowledge and data with the research team. Without them this research would have not been possible.

Table 10: Research Questions and Results

Obj	Research question	Result
1	Who is typically involved in making market entry decisions?	The company leader (88% survey, 100% interview) and upper management (72% survey, 73% interview).
	What are the major factors sheet metal contractors consider before entering a new market?	A total of 51 factors were identified by the literature review and interviews with 89% overlap between sources. The workshops identified eight consistently important factors.
	What are common timeframes for making market entry decisions?	Most interviews (65%) report their decision took six months or more, which correlated with a higher success rate. Experts added the timeframe is likely circumstantial and extending it may not be possible in some cases.
	How do sheet metal contractors typically make a market entry decision? What is the process?	Only 6% of survey respondents and 7% of interviewees indicate written, formal decision processes are used by sheet metal contractors making market entry decisions.
2	Why do sheet metal contractors grow through market entry?	Reasons vary based on the specific decision. Step 2 of the framework lists some examples identified in the research.
	What are the most common types of market entry attempted by sheet metal contractors?	The research methods identified the common types of market entry: expand geographically, add a trade, new market sector, and add HVAC service.
3	How often are sheet metal contractors successful in entering a new market?	The literature cites a 20% success rate.
	Does a standard framework improve the market entry decision-making process?	Yes.

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