# Ingrained in the market:

# A theoretical and qualitative study into the practice and implications of social networks on international market research



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# CHAPTER 1

## Preface

### 1.1 Introduction

Globalization, defined as “a process by which economic, political, cultural and environmental systems across the globe increasingly become, and are accepted as, part of an integrated and interdependent whole system,” (O’Leary 2007: 102) is said to be transforming a once culturally diverse and geographically dispersed world (Ibid.). In this sense, globalization can be seen as a continuous process that can be closely intertwined with the advent of communication technologies which have connected more and more distant audiences throughout history. Contemporary advances in communication technology born of the Internet have played significantly in this process of globalization and altered many aspects of modern life. The Internet, allowing a more freely flowing and multi directional stream of information, knowledge, and opinion, connects people around the globe and gives a voice and collective body to what were traditionally disparate recipients of one way mass communication. From highly tailored and targeted news, information, and entertainment sources, to sites that connect family, friends, and co-workers, to communities of veritable strangers linked by common interests and pursuits, the Internet has shown to be a medium that is not quite like any that has come before and is most certainly a driver of globalization.

In this increasingly connected modern world it is an involvement in online media, and especially the attendant communicative capabilities and communities and that spring forth from them which “enables both companies and individual consumers to break the barriers of form, time, and place that exist in the traditional marketplace,” (Overby & Min 2001: 394) and creates an evolving medium that can be seen to have particular interest in regard to contemporary business theory and practice.

The seed for this project developed from a personal involvement in a particular website known as reddit. Popularly called ’the front page of the Internet,’ reddit is a social news and entertainment website. By democratically ranking submissions from any member in the form of ‘links’ or ‘posts’ - which can range from the reportage of breaking world news to photographs of cats and anything in between - reddit is an online communication medium with a distinctly social component. In several years as a member of reddit, I have seen its’ population expand rapidly. According to information released by the site, in the time between February 2011 and December 2012 the number of monthly pageviews more than doubled from 1 to 2.7 billion, with the latter coming from over 34 million unique visitors[[1]](#footnote-1).

It can be attributed to the presence of this growing audience that there is an increasing popularity for the site to be used as a tool for marketing. Participation by politicians, celebrities, and various representatives of businesses and industry trying to promote themselves as well as various projects and objectives has become a regular occurrence on reddit. By engaging in question and answer sessions with users, a large swath of the general population of reddit can be made aware of the products and projects those parties are publicizing and promoting via their involvement with the site.

Having seen the effectiveness in the publicity and promotional aspects of marketing that are becoming a part of the reddit experience, and in recognition of the voice that this and other emergent communication technologies give to individuals the world over, this medium presented itself as a plausible and constructive medium for market research.

Market research and intelligence is said to enable businesses to “know what they could and should be selling, what customers are willing to pay, how they should best market their products and services, how to package and deliver them, and how to differentiate their company from the competition [and] is essential… in order to determine which market segments any firm can best serve.” (Wenzel 2012: 9) These interwoven processes are said to be “the most important business marketing functions, as the intelligence activities of collecting and analyzing internal and environmental conditions are important to strategy formulation and operational conduct.” (Jenster 2009: 159) Market research is thought to be especially important in dealing with foreign markets, be they close neighboring countries or distant lands around the world as “business operations in foreign markets are inherently risky because of the political, cultural, and market systems the firm must adapt to. The main source of this uncertainty is the foreign firm’s lack of local knowledge. (Johanson & Vahlne 1977) Due to this uncertainty, "companies that conduct business in foreign countries must understand the nature of those particular markets and judge whether they require customized business strategies." (Zikmund 2013: 14)

In this light, the audience presented by the community of reddit users, capable of being reached for direct, two-way communication regarding these areas of uncertainty can potentially be a valuable tool in a pursuit of market intelligence. The process of market research however, demands a market and a business or organization with an interest in developing a greater understanding of the forces at play in that particular market. An agreement and cooperation with a small Danish firm called Webstech presented itself as the perfect opportunity to investigate the effectiveness of online communities in the generation of foreign market intelligence. Interested in the opportunities, barriers, and complications that might be associated with selling their product in the United States, but with very little understanding of any similarities or differences between the Danish and American markets, Webstech agreed to take part in a case study of the practical application of reddit as an audience for market research activities to achieve an improved market orientation. Critical to this decision, and a function of their small size and recent inception, was an inability to afford the costs of hiring traditional market research practitioners.

### 1.2 Research Question

This project seeks to investigate how information gathered from actors in online communities, reddit in particular, can add to the foreign market knowledge of a firm, in this case Webstech. This will be done by applying a mixed theoretical framework for describing, understanding, and evaluating the process. Consequently, the research question is two part:

**First, what are the benefits and drawbacks of the utilization of the online community reddit in the generation of foreign market intelligence for Webstech?**

**Second, how can a merged construct of existing theories on business management, internationalization, and networks provide a more effective framework for understanding the resources available to young, but internationally oriented companies such as Webstech?**

In order to answer these questions, practical application of market research on behalf of Webstech was to be undertaken with reddit members as respondents. The information gathered in that process will be reported and discussed to determine the efficacy of using reddit in generating international market intelligence, which as a function of the process will illustrate potential drawbacks and benefits of doing so.

This project will attempt to bring together a set of varied and district theoretical paradigms in order to frame, describe, and understand the role that online communities can play in modern international market research. These theories are: 1) the resource based view of the firm, 2) a born global construct of modern business, and 3) network and social network theory.

The resource based view of the firm is held as a framework to understand the form, function, and makeup of a company as a collection of its resources. To this, born global theory will be applied to exemplify a contemporary type of business which is in certain ways incongruent with conventional and expected characteristics of multinational enterprises from a resource based view. The manner in, and prevalence of which companies like these are proving successful in the modern, global marketplace despite being resource poor in comparison to large multinational firms, can be seen to demand a reconsideration of what constitutes resources in small born global firms such as Webstech. In this reconsideration, the ways in which the contemporary marketplace, created largley by the Internet has affected the spread and utilization of networks and provides a channel to worldwide sources of human capital is thought to play a role. Therefore, network and social network theory will be applied to achieve a thorough understanding of networks as potential resources for contemporary born global firms.

The hypothesis of this thesis is that merging these theories will provide a fuller framework for understanding and assessing what constitutes resources for companies in a contemporary business environment.

###  1.3 The Case

This research paper will undertake a case study of the utilization of reddit in foreign market research objectives for a Danish company with an interest in exploring the options and opportunities available for exporting a specific product to the United States. Doing so will allow for the generation of empirical evidence regarding the practice of utilizing the members of an online community as an audience to create preliminary market intelligence on a foreign market, as well as providing an opportunity to test the effectiveness of the proposed framework to understand the resources demanded of and resultant from the process.

#### 1.3.1 The Firm - Webstech

Webstech is a small agricultural product manufacturer that specializes in technologies that allow users to monitor the state of stored agricultural products. Based in Tjele, Denmark, Webstech produces biomass sensor technologies which measure heat and humidity in stored agricultural matter to detect spoilage, rot, and infestation. When stockpiled, grain or other agricultural material runs a very real risk of spoilage devaluing the entirety of the stored lot. By measuring the heat and humidity in the storage pile, Webstech technology is able to inform end users about potential areas of concern and protect what are sizable investments of time and money. When an area of increased heat or humidity is detected, the end user will be able to tell exactly where the problem is developing and excise that portion of the stored organic material to protect the rest from contamination and decay. These indicators can be tied to other machinations, such as fans or augers that will quickly address the issues and prevent loss as well. Webstech operates wirelessly and employs a variety of transponders so that nearly any organic material or storage method can be easily monitored. Traditional examples of this type of product resemble and are commonly referred to as spears. They will measure points in a straight line when inserted from the top or sides of a storage container. The technology at question in this project diverges from traditional design by being comprised of a series of balls that are placed and take measurements in various places throughout the storage container.

Webstech is a spin-off from Aarhus University and has, since the commercialization of their technology, never been solely reliant on selling to the Danish market. Through a dealer agreement, the company’s products were available in seven other Northern European countries[[2]](#footnote-2) from the beginning and Webstech has currently expanded to Romania as well.

After initial contact was made with the company, a subsequent meeting with CEO Sten Andersen shaped the direction of the project and precise market related questions and concerns were made clear. The issues of greatest importance to the management of Webstech with regard to the American market were highlighted as:

* Market orientation
* Determination of relevant target areas and regions with high storage demands
* Potential market entry modes, especially equipment rental as a conduit to new audiences
* Barriers to conducting business with a foreign supplier
* Identification of promotion and convention opportunities
* Comparison of technology and price with competitors brands

#### 1.3.2 The Medium - reddit

Online communities encompass a wide range of characteristics and attributes, sharing at times only the fact that they are the product of connections mediated by the Internet. News aggregate sites, message boards, and social networking sites are just three examples of online communities, but a blend of all three is a common description of the online community which has developed on the website www.reddit.com.Sometimes referred to as a social news site, users of reddit submit links to content or post messages to the community. Other users vote on and thereby rank submissions, and can make comments which in turn are also subjected to ranking by votes by any registered user. In facilitating this process, reddit is said to “provide a unique way for participants to produce and consume information through collaborative voting.” (Leavitt & Clark 2013: 1)

The Moz Top 500, an Internet analytics listing of the 500 most popular websites lists reddit as the 31st most popular domain on the Internet as of October 10, 2013.[[3]](#footnote-3) To provide some frame of reference, Facebook, Twitter, and Google hold the first through third spots respectively, but reddit lies between nytimes.com and bbc.co.uk which are in 30th and 35th place respectively. According to a nationally representative survey conducted by the Pew Research Center’s Internet and American Life Project, six percent of online adults in America use reddit.[[4]](#footnote-4)

Of these millions of users, anyone who registers with a valid email address can submit links or open discussion threads which other users will promote or relegate as they see fit. As posts are promoted, or ‘upvoted’ in the parlance of the site, popular and interesting content reaches the top of the board. Reddit is unique in that it is divided into a frontpage and an ever-growing collection of boards for individual topics, or ‘subreddits’ as they are known. A subreddit is a user created subforum that can be focused on nearly any topic, with only extreme cases of distasteful content banned from the site. The landing page of reddit is made up of the best performing posts from a collection of 20 default subreddits, but can be configured to draw only from the boards that are of particular interest to any specific user. Subreddits are as disparate and varied as can be imagined, and while many users are content to use reddit without logging in or visiting specific subreddits, it is the dedicated users of field relevant subreddits who are of particular importance to the work in this project.

On reddit, any comment or post is given a score figured off of the difference between up- and down-votes. This score, be it positive or negative, is added or subtracted from what is known as a user’s link and or comment ‘Karma’. These running tallies are displayed next to every user’s name. Users with high Karma scores are allowed to post more frequently which is said to “reward users who contribute high quality content and make insightful, amusing or otherwise interesting comments.” (Weninger et al. 2013: 2) The fact that your user profile displays this score, that your ability to post is associated with it, and the importance that some members of the community put on Karma scores as a measure of reputation make the community created among users a distinctly social and charged one.

At the same time, reddit has increasingly become a marketing tool, with actors, politicians, musicians and many others creating accounts to interact directly with members of the community for any number of reasons or goals. On August 29th, 2012, with no forewarning, President Barack Obama spent 30 minutes answering questions on the site. According to the data provided by reddit staff, this thread was viewed 2,987,307 times that day. As of the 31st of August it was said to have been viewed 5,280,441 times.[[5]](#footnote-5) With its revolutionary interface and an audience in the millions all over the world, reddit has become a communication technology unmatched in today’s media landscape. It is the very real potential held by this same medium, said to have brought about a higher order of organization to online content has changed the methods for discourse online, (Weninger et al. 2013: 2) to realize previously impossible results in market research and intelligence that this research is founded. One of the most important features of reddit in regard to this research is the communities that come to surround esoteric subjects and discuss them in the comment sections of links or posts. These comment threads provide a “user generated and user curated commentary of the topic at hand” and “result in a more robust overall discussion.” (Weninger et al. 2013: 1) It is via this relatively new and evolving medium and in pursuit of just such robust discussion that I propose to conduct market research on behalf of Webstech in the hopes of generating fresh and important market intelligence in advance of their attempts to sell their product in the United States.

An ability to access new knowledge about the particular areas of concern highlighted by the firm, or others that while not specifically mentioned but with relevance to a thorough understanding of the market, achieved through contact made via the medium will speak to the research question by highlighting benefits that are available in the utilization of online communities for foreign market research goals. Any inability to address those particular issues, or complications that reduce the efficacy of the process or result in unintended consequences will speak to the drawbacks of the utilization of online communities in doing so.

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### 1.4 Delimitation

This project seeks to investigate a market research practice in relation to a very narrow frame – a specific firm, in a specific industry, using a specific online community, to examine a specific foreign market. As the focus of this work is the particular benefits to international market research and understanding available this specific firm, in relation to this single product, using a distinguished segment of an online community which caters to a specialized group of actors and interested parties, this research design cannot be generally assumed to be capable of generating the same results in other cases, but can serve as an example of the process and function as a measure of the merged theoretical perspective to frame and describe the process.

# CHAPTER 2

## Philosophical Considerations

At this point, before we delve further into the case and the means by which it shall be investigated in the course of this research, it is important to identify and outline some of the perspectives and positions that frame this project and will create the foundations for the case and the attendant use of theoretical and methodological constructs.

### 2.1 Epistemology

Epistemology is defined by Zinn O’leary as “how it is we come to have legitimate knowledge of the world.”(O’leary 2007: 76) Epistemologically speaking, the position taken in this research is one of interpretivism. As a counterpoint to the positivist approach, which is said to emphasize an explanation of human behavior, the interpretivist approach is concerned with the empathic understanding of human action. (Bryman 2008) Interpretivists maintain that the application of the scientific model is not sufficient for describing and understanding the social world. An interpretivist perspective is representative of a view that the study of people and their institutions are fundamentally different than the study of natural sciences and that “the study of the social world therefore requires a different logic of research procedure, one that reflects the distinctiveness of humans as against the natural order.” (Bryman 2008: 17) This is explicitly evidenced in the course of this project by the mixed methodological framework at work, the social network aspects of which are included in specific regard for the agency and human capital of the individual, (Burt 1997) as well as the fact that the aim is not to explain human action, but to better appreciate the distinct behaviors and understandings at work in the lives of each of the respondents to the market research methods carried out in this thesis.

One critical part of the interpretivist perspective is that its intent is not to simply explain how members of a social group interpret the world around them, but an aim to place the interpretations that have been elicited into a social scientific frame. (Bryman 2008) The respondents and responses that come of conducting this market research using online communities will shed light on unique interpretations, but will also form the base of the proposed mixed theoretical framework by illustrating a distinctive network and its potential as and for creating a resource.

### 2.2 Ontology

Ontology is a branch of philosophy concerned with “the study of what exists, and how things that exist are understood and categorized.” (O’leary 2007: 180) Building off of the epistemological position of an interpretivist, constructionism is an ontological outlook which asserts that social phenomena and their meanings are continually being accomplished by social actors. (Bryman 2008: 692) In constructionist thought there are multiple perspectives to truth, and the aim of research is to create new and usable community based knowledge through subjectively bounded empirical observation of those multiple viewpoints of the truth. (Lincoln & Guba 2000)

In the course of this thesis, the constructionist recognition of social actors as the generating force of social phenomena and individual perspectives on truth is critical not only to a full understanding of the online communities they are part of, but more importantly, their role in creating valuable and diverse information which stems from their constructions and understandings.

Social scientists that adhere to constructionist ontology base their reports on systematic, empirical observations gleaned from the social world, but maintain that due to the fact that the “researchers’ own accounts of the social world are constructions,” (Bryman 2008: 19) that any perceptions demand that the subjective nature of the human mind and the perspective of the observer be critically reflected upon as any researcher will present “a specific version of social reality rather than one that can be regarded as definitive.” (Ibid.) The implications of subjective interpretation by the researcher, highly charged in any work, may be said to be a greater concern in this research given my preexisting involvement in the site. Specific attention will be given to to this point in section 2.4 – Implications and Ethical Considerations of Involvement in the Community.

### 2.3 The qualitative paradigm

The qualitative paradigm is said to be particularly well suited to a constructionist ontological position in that it seeks not to measure, but to offer “insight into questions that address the way people think about a certain subject and why they think that.” (Ruyter 1998: 8) This insight can be gained through a process consisting of analysis and meaningful integration of views expressed by respondents, (Spiggle 1994) and highlights the importance of the community in knowledge creation and different knowledge perspectives which are held to be of great importance in the constructionist perspective. ([Järvensivu & Törnroos 2010)](http://www.bibme.org/bibliography%22%20%5Co%20%22Edit%20this%20item)

Qualitative market research has several distinct characteristics, the most critical of which is the ‘dual role’ researchers are demanded to play with accountability to research standards as well as clients objectives both being important demands of the work. (Imms & Ereaut 2002) Both will be addressed through the collection of personally crafted qualitative responses offering different perspectives, in this case capturing a greater understanding of the various ways the technology and products provided by Webstech are considered by disparate audiences.

The qualitative market intelligence created through this research is part of the scholarly pursuit of theory development and an application of that theory to achieve business objectives. These responses provide insight to personal perceptopns of the actors in the market, addressing market research objectives of the project, but also create a means to judge how the merging of the theoretical constructs ground the process and its outputs by measuring the results by processes and scales of measurement inherent in the framework.

### 2.4 Implications and ethical considerations of involvement in the community

# These perspectives on ontology, epistemology, and qualitative methodology lead to a necessary discussion of my personal involvement with reddit. As a constructionist, and being aware of the implications that it may carry for my objectivity, I must acknowledge that being a member of the social network under investigation in this project may influence my interpretations. Due to this concern, every effort has been made to directly reference the wording and terminology used by the respondents themselves throughout the process. Additionally, complete transcripts are included in the appendixes to provide a full picture of each of the various accounts. By removing the subjective influence of the researcher determining which parts of the intelligence will be reported and instead presenting a full accounting of the information provided by each respondent any bias is hoped to be nullified. CHAPTER 3

## Theory of Science – Research Design

Any empirical research involves a particularly arranged means of collecting and interpreting information which connects the empirical data to the study’s initial research design as well as the set off conclusions. (Yin 2003) This organization of data collection and analysis is defined as the research design by Martin Callingham, who goes on to say that the elements of a research design are the “objectives, the sample (nature, size, and location), methodology used, coverage and stimulus material required as well as a number of logistical factors such as timing and cost.” (2004: 113)

In this thesis, a case study is utilized to test the effectiveness of online communities in market research. By capturing the dynamics of studied phenomena and providing a multidimensional view of the subject at hand, case studies are said to be particularly well-suited for exploring subjects of industrial marketing. ([Järvensivu & Törnroos 2010)](http://www.bibme.org/bibliography%22%20%5Co%20%22Edit%20this%20item)Case studies are preferable when dealing with contemporary events (Yin 2003) and allow practitioners to “retain the holistic and meaningful characteristics of real life events.” (Ibid.: 5) Put another way, case studies are especially capable of capturing the high level of complexity of current, real life situations. Said to “evaluate processes … while developing novel ideas based on empirical discovery,” ([Järvensivu & Törnroos 2010: 107)](http://www.bibme.org/bibliography%22%20%5Co%20%22Edit%20this%20item) case studies provide new insights on subjects from multiple perspectives.

Some scholars warn that a single case study of the conditions in one specific context is not sufficient to make generalizations, but do allow that cases studies are generalizable to theoretical positions. (Yin 2003) As such, the results of the case study are seen to be effective in exploring the implications that the empirical evidence created in the practical application of online communities to market research have on the merged theoretical construct at work in this thesis.

As we have seen, the modern age of the Internet is having a marked effect on contemporary life, with the multi-directional communication technologies that come with it having repercussions on both scholarly and practical business research. New market research methods are thought to be “essentially changing the core paradigms of marketing research, especially in relation to collection of information about the company’s own planned and actual marketing activities.” (Tvede & Ohnemus 2001: 113) One such emerging practice is that of netnography.

### 3.1 Netnography

Netnography is mediated research method as it takes place over a communication media and not face-to-face. Netnography has been defined as “a specialized form of ethnographic research that has been adapted to the unique contingencies of various types of computer-mediated social interaction.” (Kozinets 2012: 39) Ethnography, a traditionally qualitative method, undergoes a transformation when it is proposed to be conducted over the Internet. While historically defined as “exploring a place or cultural group in order to understand , discover, describe, and interpret a way of life from the point of view of its inhabitants.” (O’leary 2007: 84) By the process of netnography, ethnographic research, an in-depth case based approach to developing insight through involvement and observation of a community, (Churchill 2005) has moved online.

As one of the purposes of market research is to “identify and understand the tastes, desires, relevant symbol-systems and decision making influences of particular consumers and consumer groups” (Kozinets 2002: 2) and that, as a marketing research technique, netnography can by way the Internet offer insight into the community’s needs, desires, decision making process, symbolic meanings, and more, (Xun 2012) it is easy to imagine that the information these relevant parties are relaying in these online communities would be of particular interest to companies that hope to know more about or conduct business in specific markets and industries.

With that being said, there is however, a dearth of existing research that seeks to examine the impacts that online social networks and the netnography thereof, while highly suitable, have had on market research and intelligence. Netnographic studies have been conducted on the ways in which members of online communities use the medium as a tool in research prior making purchases, (Xun & Reynolds 2010) and the role they play in word of mouth marketing, (Trusov et al. 2008) and while these studies highlight some of the pertinent information that can be had by ethnographic study of mediated communications, they fail to address and represent the perspective of businesses hoping to understand markets and the actors in them more fully through the practice.

### 3.2 Implications of mediated research

The tactics employed in the course of this application of netnography, while definitively qualitative, do hold a strange position in regard to traditional research methodology. Being that it takes place over the Internet there are some potential concerns that need be addressed. As “one of the strengths of qualitative research has always been its use of group dynamics, non-verbal communication, body language and tone of voice as integral parts of the data analyzed,” (Desai, 2002: 100) there is little doubt that due to the “computer-mediated, textual, nonphysical, social-cue-impoverished context” (Kozinets, 2002: 2) of netnography that some of these aspects of qualitative methods will diminished and in some cases lost entirely by conducting this research over the Internet.

Internet-based research methods are said to be more economical, overcome distance based barriers to respondent pools, and allow for data from large numbers of people to be easily collected and collated. (Bryman 2008: 632) While this may be the case, reddit and the format that it takes represent a media that is unlike any other and lies outside of much of the existant literature about online marketing. By becoming a member of the site and joining subsequent subreddits, the members of this social network are pooled by distinct common interests. The majority of research methods that to this point have been studied on the Internet do not precisely describe the contexts or dynamics at work on reddit, but do set the stage for understanding the general aspects for doing so by describing the process of research over other channels of internet mediated communication.

When discussing research methods and their implementation over the Internet, there are many important aspects and considerations to bear in mind. The fact that research conducted over the Internet is generally easier and less costly than traditional means have been taken to be true, (Tvede & Ohnemus 2001) but the media does effect the process and by extension the results in some ways. One aspect that is at issue in this regard is the asynchronous nature of some internet research methods. Asynchronous methods do not take place in real time. They do not demand instantaneous replies, and the interaction can take place over extended periods of time. Although there are risks that “relative to face-to-face interviews that the respondent is somewhat more likely to drop out of the exchange” (Bryman, 2008: 642), synchronicity was not of critical importance when creating this research design, based mainly on an agreement with the ideas that greater commitment and motivation are required for completing an online intereview, and that replies are often said to be more detailed and considered than in face-to-face intereviews. (Bryman 2008).

An immensely important aspect of this and most research conducted via communities on the Internet is the largely anonymous nature of their construction and by that measure the disputable nature of information that comes from them. It demands being said that all of the respondents in this research are assumed to hold the positions and opinions they have claimed to throughout this work, but the veracity of their claims is impossible to prove.

3.3 Distinctions in method applicationThere are distinct and various methods in the application of Netnography and decisions regarding the process must be made. Robert Kozinets (2001) describes the method as largely unobtrusive, expected to be conducted using observations in a context not fabricated by marketing researchers, and has framed the method as primarily subjective and demanding of metaphoric and symbolic interpretation, arguing that practitioners should play the role of observer and withhold from interaction with members of the online community being studied. This position is further evidenced by his evaluation of the method as creating two important elements; “1) the data that the researcher directly copies from the communications of online community members, and 2) the data that the researcher inscribes regarding his or her observations of the community, its members, interactions and meanings.“(Kozinets 2002: 8) Both of these elements are devoid of results stemming from direct involvement and interaction with the community.

I, on the other hand, agree with researchers like Anjali Puri (2007) who say that the netnographic method requires researchers to live and interact in the virtual space by becoming active members of the community in order to maximize benefits to the method.

It is by this process of netnography, one using direct contact with members of the community in pursuit of responses to specific questions that many of the subjective and interpretive aspects of a netnographic analysis of an online community, have been avoided. This research would be markedly different if the archives of reddit had been searched for existing posts and comment threads related to agricultural storage and the technology associated with monitoring that process. In that view of netnography, many of the underlying meanings and intentions would be arrived at through interpretation of existing discourse by the researcher. Instead, by using this explicit and active methodological design these responses will be taken at face value to provide intelligence regarding those areas in which Webstech hopes to develop greater understanding.

### 3.4 The community as weighed against netnographic standards

It has been said by Robert Kozinets (2001) that the process of netnography demands the identification and involvement of communities that 1) have a more focused and research relevant segment, 2) a higher volume of postings, 3) large numbers of various members posting, 4) more descriptively rich data, and have 5) between member interactions of the type demanded by the research question. The first of these points is meant to ensure that the online community being studied will have relevance, and this is where reddit, being broken into discernible subreddits is particularly well suited. Posts were made that asked for information from any users that had an opinion on agricultural monitoring systems. The posts were placed in the *Farming* and *Agriculture* subreddits, any involvement in which was felt to imply some reasonable interest or knowledge about pertinent fields. To the second and third points, both the farming and agriculture subreddits are well populated. Farming plays host to 6,384[[6]](#footnote-6) members, while Agriculture had 2,153[[7]](#footnote-7) registered users as of September 29, 2013. It bears mentioning that these numbers represent only a part of the potential audience and respondent pool as many other people may read, comment, and interact with the subreddit without explicit registration. With no restrictions on the content or length of the comments that are admissible on the board, the data that is available, while a construction of only the particular respondent, can be as descriptive and detailed as they are willing to make it. The demand for between member interactions posited in the fifth point, achieved by direct participation is certainly believed to be of the type required by this research and can hope to create a valuable channel to market information.

### 3.5 Preferences, understandings, behavioral community norms and execution of the method

It is due to the personal involvement in the community mentioned in section 2.4 that a consideration of community expectations, standards, and preferences for behavior have been integrated into the method.

As online networks represent communities of bound individuals, they carry along with them particular sets of social norms, expected behaviors, and distinct preferences. (Leavitt & Clark 2013) Highly relevant in this sense is a particular disdain shown by some members of the site for the increasing prevalence of marketing activities in the community. Certain members decry marketing involvement as encroaching on and interfering with the human relational intent of the site, and are especially critical of marketing efforts disguised as natural participation in the community. It is with this in mind that the marketing goals were explicitly highlighted in the communications put forth to the community. A further exposition of these issues will follow in the discussion.

In continued respect to the social nature of the medium and the community, the application of the method was undertaken using a conversant and grateful tone in the hopes of promoting good will among and increasing the likelihood of response from the community.

Additionally, in an attempt to increase the number of respondents, the process was incentivized by means of a community specific reward. A monthly paid membership known as ‘reddit gold’ adds several benefits to the standard experience. Essentially convenience and functionality upgrades, this service costs $3.99. This service was promised to and purchased for the five respondents who agreed to and fulfilled the long from interview process.

### 3.6 The process

Initially a post titled “*Grain monitoring systems – why or why not*?” was posted to both the farming and agriculture subreddits. Each of these posts were accompanied by the following text, clarifying the intent of the post and what would be considered relevant input:

*“In the interest of full disclosure I’ll admit that I am not a farmer. I am however writing a project for a Danish company that makes grain monitoring devices which alert you to temperature and humidity issues. The technology would theoretically increase yields but the company has not been able to convince farmers that it is worth the investment. I know we all hate marketing… but I hoped you might have some thoughts.”*

Nederst på formularen

These initial posts garnered responses from one member on the agriculture subreddit, and six on the farming subreddit the content of which will be discussed in chapter 5.

As this was felt to be too small of a respondent group, another post was created on each subreddit, again briefly describing the project, and accompanied by the following text incentivizing involvement with the promise of reddit gold and asking that people send a private message if they were interested in helping:

*“I am willing to give reddit gold to anyone who helps out with this but it will be a series of interviews regarding the perception of this technology, how to sell it, and your impressions of the market for something of this nature. Please PM me if you think you have a relevant background/experience and are interested in helping out!”*

When only two respondents came of this process, the respondents from the initial threads were contacted by means of private message and made aware of the opportunity to receive reddit gold in exchange for their continued involvement in the project. That message follows:

*“Sorry to stalk you like this, but you replied some time ago to a post I put up about bin and silo monitoring options and the reasons for and against them… Since then I’ve been lurking in the farming and agriculture subreddits looking for respondents for the research I’m doing about storage processes on larger sized farms with little success. I am working with a Danish company who wants to market a silo monitoring system and wondered if you might be willing to help with a short series of interview questions regarding such a topic. I would be willing to give you reddit gold for your trouble, but understand if you think this is weird or are uninterested. Let me know what you think.”*

Of the seven respondents to the first threads, all but two agreed to continue on in the research process. Of these five, two failed to follow up on the research process. The content of these long form interviews will also be discussed in chapter 5.

Transcripts of the public discourse in the initial threads can be found in Appendix 1.1 and 1.2. Transcripts of the five private, long form conversations can be found in Appendix 2.1 – 2.5.

In creating a system for citation throughout this work and a method by which to reference the appendix it can be found in, each respondent was assigned a letter, from A through J. As an example, if a comment from respondent A occurred in the course of a long form interview that could be found in appendix 2.2, it will appear as such: (A 2.2).

If multiple respondents are meant to be cited it will then appear as such: (A 2.2, D 2.4).

# CHAPTER 4

## Theoretical Framework

### 4.1 Merged theoretical approach

Before examining the theories and frameworks in which this work is grounded, an important issue to address at this stage is the mixed approach demanded by the aims and focus of this project. According to Geraldine Lillis, “a key characteristic of commercial qualitative market research is its eclecticism and the important benefits which arise from an absence of theoretical and methodological purism”, (Lillis 2002: 10) and it is with that understanding that this project straddles two disparate marketing studies subgenres, namely that of marketing in regard to consumers and businesses. Long considered separately in market theory and understanding, business to business and business to consumer efforts are thought to have disparate goals and methods in addition to audiences.

The key distinction between business to business and traditional marketing efforts is said to lie in the fact that “buyers and end users may well have quite distinct criteria for satisfaction.” (Grofton 1997: 24) While this may be true, the fact remains that the means for achieving an understanding of this satisfaction are governed by research on and interaction with participants in both aspects of the market. While they have been seen as different and polarized audiences for a great deal of history, the Internet is said to be responsible for “the emergence of instant international companies with immediate access to potential customers, including both business-to-business customers and final consumers.” (Overby & Min 2001: 392)

As such, I agree with Martin Callingham who puts forth that while “a not uncommon debate in commercial sector research could be whether consideration should be given to separating those who buy for their own consumption and those who buy for others to consume, [that] the apparent purpose of the research could be the same.” (Callingham 2004: 20) As this project aims to illustrate and understand the perspectives of relevant actors in foreign markets, and as the potential pool for useful respondents for this research is includes any person that privately or in the course of their employment deals with and has experience in on-site agricultural storage, a broad spectrum of viable voices from the market includes those that operate small family farms, to those who work with and maintain large scale farming and storage operations with high commercial viability, or employees of companies that sell both such end users their own technology and processes.

There can be no doubt that these different perspectives will offer various levels of engagement, understanding, and experience, but the perceptions of each strata of respondent are valuable in a constructionist perspective and can provide great insight to the inner-workings of the market offering crucial market intelligence for the company involved in the case study.

### 4.2 The Resource-based View of the Firm

In attempting to analyze methods for and to conduct foreign market research on behalf of an external company in relation to this project it is important to establish a framework through which the project will be viewed. It is by that measure that this work demands an overarching construct by which to understand a firm and how it behaves.

The resource-based view of the firm, or RBV, usually attributed to work put forth by University of London Professor of Economics Edith Penrose, (Mahoney & Pandian 1992) debuted in the late 1950’s during a time when attendant literature and thought were dominated by a very dry, mathematical, and exacting understanding of firm operations, “leaving the study of entrepreneurship and management in a very rudimentary state within the discipline of Economics.” (Boxall 2011: 98)

Penrose, through RBV, in hopes of breaking from that mold started a discussion of the firm as more than an administrative organization, but as a unique gathering of productive resources:

*“A firm is basically a collection of resources. Consequently, if we can assume that businessmen believe there is more to know about the resources they are working with than they do know at any given time, and that more knowledge would be likely to improve the efficiency and profitability of their firm, then unknown and unused productive services immediately become of considerable importance, not only because the belief that they exist acts as an incentive to acquire new knowledge, but also because they shape the scope and direction of the search for knowledge.”* (1959: 77)

In the resource based view of the firm, organizational resources are defined as “the organizational goods, capacities, abilities, processes, attributes, information, knowledge and many others that are controlled by the organization and that makes it possible for the company to conceive and to implement strategies that improve its efficiency and its effectiveness.” (Barney 1991: 143) An important distinction between resources is their tangible or intangible nature, (Wernerfelt 1984) with tangible resources including land, buildings, materials, and money, and intangible assets consisting of factors such as competencies, knowledge, capabilities, attitudes, relationships, and the reputation of the firm. (de Wit & Mayer 1999)

These resources have been divided into four categories by Fred R. David depicted in table 1, as human capital, financial, physical, and organizational:



(David 2005)

Essentially, what RBV asserts is that firms and the resources they are composed of are ‘heterogeneous’, meaning infinitely diverse, and ‘immobile’ meaning distinctly possessed by the firm in question. (Barney 1991) Differences between firms will therefore represent varying access to resources, the ultimate utilization of which are what account for performance variations. (Ibid.) According to this perspective, “a firm’s ability to attain and keep profitable market positions depends on its ability to gain and defend an advantageous position in underlying resources.” (Conner 1991: 122)

This understanding of resources defines just such an advantageous position, when reached through a realization and utilization of distinctive resources, (Peteraf 1993) as a firm’s ‘competitive advantage’, or the implementation of a value creating strategy that is not currently in use by competitors. (Barney 1991)

A high regard for intangible resources in the creation of competitive advantage have been highlighted by several theorists in the field, illustrated by the importance placed on intelligence as a key strategic resource (Barney, Wright, & Ketchen 2001, Knight & Cavusgil 2004), the value that that Teece, Pisano, and Shuen place on “the mechanisms by which firms learn and accumulate new skills and capabilities” (1997: 519), and the opinion that organizational knowledge derived from multiple individual sources is greater than the sum of its parts, and becomes a key strategic asset. (Klein 1988) The issue with such thinking though, lies in the inherent difficulty in measuring intangible resources. (Peng 2009)

Acknowledging that not all facets of a given firm represent heterogeneous and immobile resources and as such a subsequent potential for competitive advantage, and in an effort to develop a set of empirical indicators that can be used to judge them, Jay Barney has developed a scale by which to weigh them. According to this scale, identification of four key attributes, those being value, rarity, inimitability, and an incommutable nature, or lack of substitutability, is necessary for any aspect or attribute of a firm to be declared a resource. (Barney 1991)

In this proposed scale *value* is determined by an ability to enable a firm to conceive or implement strategies that improve its efficiency and effectiveness. A measure of *rarity* is said to be important in that it denotes that the attribute in question is not possessed by large numbers of competing or potentially competing firms. *Inimitability* refers to a demand that firms that do not have these assets cannot obtain them. Finally, an *incommutable nature* stresses that there be no strategically equivalent manner in which these attributes can be duplicated by competitors. (Barney 1991)

Kathleen Conner, in conducting a historical review of business strategy literature throughout the course of *A Historical Comparison of Resource Based Theory and Five Schools of Thought Within Industrial Organization Economics: Do We have a New Theory of the Firm?* (1991)posits that the resource based perspective has long been central to the field, both before and after its formal introduction, citing Barnard (1938), Selznick (1957), Sloan (1963), Chandler (1962, 1977), and Rumnelt (1974) as just some of the influential literature that informs the understanding of modern business while working to connect firm performance with a competency in deploying and combining human, physical, and reputational capital. These early works have been said to be responsible for “an explosion of interest in the resource-based perspective, focusing on the ways in which firms might build unique clusters or bundles of human and technical resources that generate enviable levels of performance,” (Boxall 2011: 98) and made the resource based view of the firm “one of the most influential frameworks in several disciplines” (Arslan & Larimo 2010: 195). it is through this long history of acceptance, effectiveness, and influence in conceptualizing any particular business that the resource-based view of the firm is understood to have become one of the most widely recognized structures representing of a unified theory of the firm (Barney et al. 2001) and it is in that respect that the resource-based view is held as a worthy framework for illustrating and describing the implications of market research in online communities.

### 4.3 Network Theory

Network theory is a catch all term used in many varied fields of inquiry and thought, but they all have in common the intent to study relationships. (Chandler 2013)

Modern analytical frameworks of business networks “provide a conceptual framework that depicts industry networks through three key constructs: actors, resources, and activities.” (Möller & Halinen 1999: 416)

* *Activity links* regard technical, administrative, commercial and other activities of a company that can be connected in different ways to those of another company as a relationship develops.
* *Resource ties* connect various resource elements (technological, material, knowledge resources and other intangibles) of the two companies. Resource ties result from how the relationship has developed and represents in itself a resource for the company.
* *Actor bonds* connect actors and influence how the two actors perceive each other and form their identities in relation to each other. Bonds become established in interaction and reflect the interaction process.

The resultant constructs of networks are seen as effective frameworks which illustrate a founding principle that “relationships are viewed as the media through which actors gain access to a variety of resources held by other actors” (Hoang & Antoncic 2003: 166) and as such, contacts in any network can be a means to access information, opportunities and perspectives as “network ties generally act as conduits of and access to knowledge.” (Zaheer & Bell 2005: 811)

Business networks have been studied and extolled for their ability to test ideas, recognize new opportunities, determine relevant market selection, and generate both general and specialized knowledge regarding international markets. (Coviello & Munro 1995, 1997, Johanson & Vahlne 1977)

That, however, is where the effectiveness of traditional network theory constructs begin to encounter diminishing returns. The drawbacks to traditional network theory when historically applied to business lie in the fact that network research has long been focused on the importance of “inter-firm ties in accumulating and utilizing knowledge” (Sharma 2003: 744) and tends to “focus on the role of business relationships in firms’ internationalization.” (Kasem & Ibeh 2010: 271) Evidenced clearly through the language used to describe the framework seen in figure 1.1, the traditional focus overlooks entirely the potential value of social ties. It is this emphasis on inter-firm ties and relationships with members of other similar companies or organizations and in regard to those shortcomings that the traditional theories of networks are in this project combined with emerging social network theory.

### 4.4 Social network theory

When viewed through a sociological lens, networks are comprised of actors and the ties that connect them and composed of ties that can be strong or weak, direct or indirect, and based on professional, familial, or social bonds. (Chandler 2013) “Research in a number of academic fields has demonstrated that networks operate on many levels, from families up to the level of nations, and play a critical role in determining the way problems are solved, organizations are run, and the degree to which individuals succeed in achieving their goals.” (Ibid.: 1)

Social network theory is predicated on concepts of human and social capital. Human capital is the power of individuals to create and control information and the inequalities resultant from differences in individual ability, while social capital is the resultant effect of access and utilization of human capital between people. (Burt 1997) These underpinnings of social capital have been said to help understand how human interaction creates opportunities to leverage relationships for solutions (Rodriguez et al. 2012) and gives weight to the knowledge held by parties that enter into any network.

Through social network theory, and “drawing on a broader revitalization of the field of economic sociology, scholars began to question the widely held view that entrepreneurs, as economic actors, were isolated and that the entrepreneurial process was distinct from other social phenomena. Instead, entrepreneurs were seen as intimately tied, through their social relationships, to a broader network of actors.” (Hoang & Antoncic 2001: 167) In the broadest terms, social networks are similarly defined as a set of actors (individuals or organizations) and a set of linkages between the actors”, (Ibid.: 168) but as “social networks influence larger social processes by accessing human, social, natural, physical, and financial capital, as well as the information and knowledge content of these,”(Serrat 2009: 28) socially oriented network theorists maintain that personal relationships and social networks may also hold many of the same potential benefits to firms that we see in traditional network theory. (Ellis, 2000).

An early theory regarding the information benefits of various strengths of ties in a network can be found in Mark Granovetter’s Strength of Weak Ties theory (1973). According to this, knowledge gaps are bridged by ties between nodes which comprise a network. These ties may be strong or weak with the strength of any given tie being defined as a combination of the amount of time, the emotional intensity, the intimacy, and the reciprocal services which characterize the ties. Ties are said to be weak when the amount of time, emotional intensity, intimacy and reciprocity is low and weak ties connect distant and generally unconnected actors.

In his work on network construction and positioning, *Structural holes: The social structure of Competition* (1992), Ronald S. Burt sets out to provide a framework for understanding social networks, how they operate, and their various strengths and weaknesses in the competitive arena. It is by means of his structural hole hypothesis that the basic functions of networks are informed and understood in this research paper. According to Burt, the competitive arena has a social structure and each player has a network of contacts. Information is said not to spread evenly across the competitive arena, due to the fact that players are unevenly connected to each other. That is to say that actors in these networks are connected to each other, but that as a function of who is connected to whom, holes exist in this social structure. These structural holes are said to be “disconnections or nonequivalencies between players in the arena,” and represent “entrepreneurial opportunities for information access.” (Burt 1992: 2) It is by accessing these structural holes, and establishing contact where useful information lies that actors can realize what Burt calls benefit-rich networks.



A further exploration of the structure of networks, as put forth in the structural hole hypothesis, deals mainly with the size of networks, the type of relationships that constitute them, and the value of the information available through the involved network contacts.

While larger networks would logically be seen as the means by which to generate more potential for learning as a function of their increased size, Burt makes an important point of distinction to that point and gives warning regarding the type of information and the attendant benefits to it that come from larger networks. Burt claims that “increasing network size without considering diversity can cripple a network in significant ways… [as] redundant contacts lead to the same people, and so provide the same information benefits.” (1992: 17) It is by this measure as well that strong ties and their potential for unique information generation are brought into question. Similar to the way that large networks provide redundant information, so to do strong ties. According to Burt, in networks with strong relations information circulates at a high velocity within these clusters, but as each person tends to know what the other people know, the spread of information on novel concepts and prospects is less likely. Burt claims that “the weak ties so often ignored by social scientists are in fact a critical element of social structure”…which promote “the spread of new ideas and opportunities”… and are “essential to the flow of information that integrates otherwise disconnected social clusters into a broader society.” (1992: 26)

It is, by this understanding, that Burt claims that the sparse network provides more information benefits by reaching information in four separate areas of social activity. The dense network is ”virtually worthless as a monitoring device… because the relations between the people in that network are strong, each person knows what the other people know and all will discover the same opportunities at the same time.” (1992: 17) Structural holes, said to “act as a buffer between nonredundant contacts”, therefore provide network benefits “that are in some degree additive rather than overlapping” and are underrepresented/less likely in the model of a larger and more densely connected network.

While these concepts are seen to effectively explain and illustrate how informal social bonds can create diverse knowledge benefits, the focus remains on access to loose ties and structural holes through traditional network constructs which largely ignore the contemporary networks of online communities which have begun to allow for similar access to network partners all over the world.

Contemporary works on social network theory, such as *Studying Online Social Networks* by Garton, Haythornthwaite, and Wellman (1997), claim that computer networks can be seen as social networks, and while computer mediated communication affects the structure and functioning of these social systems be they organizations, work groups, or friendship circles, that social network theory establishes a basis for understanding online communites. I agree with Jeffrey Overby and Soonhong Min, who put forth that modernization and “the information-based ability to create and manage networks… poses a serious threat to the traditional models by representing a structure without a natural fit in the evolution from market to hierarchical arrangements.” (2001: 393) and Nan Lin who claims that “as cyber networks emerge as a major source of social capital, a new era is dawning and providing opportunities as well as challenges for theoretical development and practical analysis – an era exciting yet daunting for social network theorists everywhere.” (Lin 1999: 48)

Online communities represent a new medium of interpersonal and interorganizational communication, but the marketing focus in regard to them to this point has mainly been on “building brand relationships, awareness, and trust.” (Mäläskä &Waqar 2012: 30) While for years companies have been content to utilize the Internet and involvement in online communities as what essentially equates to an advertising channel, brand management tool, and sales portal, (Lin 1999: 48) it is the position of this thesis that the two way communication afforded by this technology and the potential to network with market relevant actors in online communities stands to offer similarly valuable network benefits in the pursuit of foreign market intelligence.

###  4.5 Born Global Theory

Jumping off from the fact that existent studies of transnational business focused on large and well established firms, Benjamin Oviatt and Patricia McDougall put forth in *Towards a Theory of International New Ventures* (1994) that a growing contingent of contemporary business is incongruent with traditionally expected characteristics of multinational enterprise. According to this theory there exist many small firms that endeavor to compete on an international level and in foreign markets from very early in the life of the company. A direct progression from this theory of international new ventures has led to what many call “born-global firms”, meaning companies that expand into foreign markets from or near their founding. (Knight & Cavusgil 1996, Madsen & Servais 1997)

In a 2004 study of born-global firms, Gary Knight, Tage Koed Madsen, and Per Servais conducted 32 exploratory case studies and collected survey based data from a total of 292 theorized born-global firms to thoroughly introduce, describe and investigate firms of this nature. Their work, *An Inquiry Into Born-Global Firms in Europe and the USA,* underpins much of the understanding of born-global firms in this paper.

Claiming that these case studies and surveys conducted in cooperation with Danish and American companies showed that because “nearly all firms involved lack the substantial tangible resources of large multinational enterprises, born globals appear to leverage a collection of other, perhaps more fundamental, resources that facilitate international success.” (Knight, et al. 2004: 647) Born-global firms are said to benefit from globalization-induced infrastructures, facilitating technologies, an international orientation, and an inherent flexibility which confer advantages in adapting to evolving and varied market perspectives. (Ibid.)

Understandably, the concept of a born-global firm does indeed owe a great deal of its existence to the modern and globalized marketplace in which contemporary firms exist and the communication technologies available to them today. While capabilities for selling to foreign markets made possible by the Internet allow for businesses of any size to compete in new ways, born global theorists also point to the rapidly increasing capacities of communication technologies as a means for born-global firms to “acquire knowledge, develop strategies, and maintain relationships to assist them in accelerating their internationalization.” (Chetty & Campbell-Hunt 2004: 62)

In regard to their international orientation and flexibility, a key aspect of this concept lies in an understanding that the larger, long-established firms that had previously dominated multinational enterprise, “usually experience substantial bureaucratization that hinders their innovative abilities, [while] smaller or younger firms are more flexible, less bureaucratic, and generally enjoy internal conditions that encourage innovativeness.” (Knight & Cavusgil 2004: 127) This is to say that a key advantage of born global firms are a lack of “deeply-rooted administrative heritage characteristic of long established businesses” (Knight et al. 2004: 647) which are said to be a hindrance to business when “new knowledge that leads to new practices tends to conflict with existing operations and management’s embedded mental models.”(Ibid)

These unconventional driving mechanisms in the born global model “shift the focus on the time-based accumulation of market knowledge in the traditional models of internationalization to the emphasis on opportunity identification and exploration.” (Zhou 2007: 282) At the same time, born-global firms are viewed to concentrate on achieving superior performance by serving markets well by means of a customer focus approach emphasizing the importance of understanding and concentrating on meeting customer’s needs. (Knight et al. 2004)

Accordingly, marketing competence is highlighted as critical to the success of born-global firms, as represented by skillful performance regarding “knowledge of customers, product development, distribution, pricing, and market targeting and positioning.” (Knight et al. 2004: 653) Additionally, with born-global firms being said to be proactive, risk taking, and innovative, and it being said that creativity is viewed as a critical aspect of the born global firm, especially in regard to marketing efforts, (Freeman, Edwards & Schroder 2006) this suggests that marketing is a key driver that allows born global firms, while being of comparatively modest means, to operate efficiently in international markets. (Knight et al. 2004)

There are conflicting demands on the volume of international business that defines a born global firm, as well as the period in which this trade is expected to begin. With “no consensus in the literature on the proportion of total sales that are exported” (Chetty & Campbell-Hunt 2004: 65) and varying interpretations of the time to internationalization falling somewhere between two and eight years, the definition of a born global firm is said to be more a matter of degree than generic absolute. (Ibid.) With these discrepancies in mind, it is for the purposes of this project their engagement in foreign markets in such a short time after its inception will serve to define Webstech as an aspiring born global firm despite any conception of total international sales.

As the definition of the term born global states that these companies intend to conduct business internationally, born global firms must put a focus on deciding how and where to internationalize as a critical part of their development. In that another aspect of born-global firms put forth by Knight et al. is that they utilize “idiosyncratic knowledge-intensive processes that give rise to particular orientations, product offerings, and marketing modes,” (2004: 648) it would seem that a firm in the mold of born-global theory, with a customer focus and a heavy reliance on information in business and especially understandings of foreign markets would recognize the relevance and value in the marketing strategies proposed and conducted in the course of this project.

### 4.6 Merged theoretical construct

With a basic understanding of the resource based view of the firm, the blended network theory perspectives, and born global theory having been established, it is important to illustrate the ways in which these theories will inform each other and come together in an attempt to frame and describe the implications each has on the international market intelligence gathering capabilities of a modern firm such as Webstech and the role that reddit can play in this process.

In compiling the three theoretical perspectives at play in this work, the resource based view of the firm was established as a viable, long standing, and widely accepted means by which to understand any business as an assemblage of various resources. The resource based view of the firm can be seen as the overarching framework in this thesis, employed to create a means by which to measure a firm, compare it to others,  and explain the differences between them. A resource based view of the firm puts forth that a thorough accounting of the resources available to any firm and the utilization of those resources are the primary means by which firms achieve competitive advantage in business dealings. (Barney, 1991)

Theories regarding born global firms were introduced to draw attention to the marked effect that the contemporary marketplace has had on business, shifting paradigms of what are expected and practicable firm behaviors with distinct effects on both practice and theory. To this point we have established that born global firms have a specialized set of orientations, methods, and goals, and that while being said to be poorer in terms of resources (Pezderka & Sinkovics 2010), they simultaneously defy expected theorized resource based view expectations and “thrive via an efficient and effective use of these limited resources, and by adapting themselves to the demands of international marketing.” (Knight, Madsen & Servais 2004: 649)

In the course of this research, we have seen networks referenced as a resource in regard to their ability to test ideas, recognize new opportunities, determine relevant market selection, and generate both general and specialized knowledge regarding international markets. (Coviello & Munro 1995, 1997, Johanson & Vahlne 1977).

This is particularly relevant to born global firms which have been shown to place a high value on knowledge and information, an understanding of market specific customer orientation, and a marketing competence that appreciates, integrates, and makes use of these intangible resources. (Knight & Cavusgil 1996) Unfortunately though, while networks have been shown as a potential source of these types of resources, the young age and limited contact with other firms which exemplify born global firms highlights an assumed disadvantage in their inability to access traditionally constructed networks and the resultant benefits.

It is in the application of social network theories, based on claims that companies exist not as isolated entities, but as actors in both social and industrial relationships which will inform their strategic behavior through access to invaluable knowledge (Kasem & Ibeh 2010) that the grounding of networks as a resource can be fully understood in the context of modern business. Accordingly, attention was focused on the manner in which social network analysts look beyond business specific network positions and the bonds that connect companies and consider relations and exchanges among social actors as just as valuable in the creation tangible resources like goods and services and intangible resources such as information, influence, and support. (Wellman & Wellman 1992)

Social network theories, particularly Burt’s structural hole hypothesis and Grannovetter’s theory of weak ties have established an understanding of non-traditional network links as being effective in the creation of diverse and relevant information. Weak link theory and the structural hole hypothesis emphasize the information available through involvement of previously disconnected or weakly tied actors as non redundant and  productive of new and highly valuable information, epitomized by an appreciation of “external change agents, especially those who can act as experiential information sources to acquire critical data about new markets.” (Ellis 2000: 447)

That being said, there are further considerations tied to the practices and orientations of born global firms and contemporary social network theory that integrates networks made possible by the connective power of the Internet. This understanding is predicated on claims that when computer networks link people as well as machines they become social networks, (Wellman et. al. 1996) and as such that online communities and computer mediated communications function as an extension of social networks and provide benefits similar to those which have increasingly shown traditional social networks to be resources. (Lin 1999) This is particularly important in regard to claims that born global firms exhibit a willingness to embrace new, creative  methodologies and are generally endowed with an innovative organizational culture which “drives unique… technology-based advantages which in turn contribute to the superior performance of born global internationalization.” (Zhou 2007: 282)

With regard to the weak tie and structural hole theories, online social networks represent a means to connect with a highly varied, diverse, and geographically distant set of network ties which should create particularly valuable information resources and perspectives. This uncommon and specific information potentially available through online social networks would have distinct implications on the resource based view of the firm as in a resource based view “the integration of individuals’ specialized knowledge is the essence of organizational capabilities” (Knight & Cavusgil 2004: 126) and utilization of resources such as these that are unavailable to competitors creates a competitive advantage. (Ibid.)

While all three of the preceding theories provide interesting insight to aspects of the inner workings of modern global business, individually they provide an incomplete framework to address the problem at hand in this project; the benefits and drawbacks that social and computer mediated network ties can have on the foreign market intelligence of resource poor firms, and how utilization of those types of network connections may affect the long standing resource based construction of firm competitiveness.

It is by combining them that we achieve a theoretical framework which enables us to understand how smaller, more reflexive, customer oriented, internationally focused and technologically savvy firms can create a competitive advantage stemming from benefits of gathering market intelligence via the external, social ties of Internet mediated communities.

The resource based view of the firm creates a feasible lens through which to conceptualize a company, but does benefit from a fresh understanding of how resources, especially networks, their relative importance, and the costs and means by which they can be attained and managed is constantly evolving. By that measure, concepts attendant to born global theory, in highlighting the motivations, proclivities, and tactics of modern firms, coupled with contemporary extensions of network theory resultant from the communication technology which exist in today’s world, are important if concepts of resources are meant to be understood, applied, and judged in contemporary business.

# CHAPTER 5

## Discussion

### 5.1 The findings

In order to identify the benefits and drawbacks of using reddit as a source of foreign market intelligence, the findings must be presented to illustrate what results were achieved from this approach and whether this approach was in fact useful to Webstech.

#### 5.1.1 What Webstech knew in advance

In the interest of a full understanding of the impacts of online communities on the foreign market knowledge for this company, it seems important to outline their existing knowledge base prior to the efforts made in connection with this thesis in advance of a discussion about its findings and their implications. During an initial meeting with the CEO of the company, Sten Andersen, their understandings of the market were briefly outlined in order to make clear the objectives of the market research intended to be undertaken on their behalf.

Their orientation to the American market was superficial, based largely on statistical reports and information regarding competitors gleaned from Internet searches, and was neither sufficient nor effective for creating an understanding of any sentiment of actors in the market. Several reports produced by an external agent to the company which focused on agricultural statistics in the United States were cited as the basis of their understanding of the market. Built off several year old information reported by the United States Department of Agriculture, they focused on issues such as the value of particular crops sold as a percent of total market value, the total vegetable acres harvested for processing, and the total on and off farm grain storage in a variety of U.S. states. These reports provided Webstech with such knowledge as the fact that potatoes were the most widely grown crop, both for processing and for the fresh market, followed by sweet corn and tomatoes, and that California, Idaho, and Washington were the three states with the most acres harvested for processing in 2007.

In addition to these reports, the majority of their information was a product of Internet searches conducted using market and industry relative terms in the hopes of determining a sense of the competition which existed in the market. These searches helped them identify several companies which were producing a similar product, but their presence on the web was not thought to be an effective method for a full understanding of those firms for several reasons. Firstly, in pursuit of an understanding of the costs of these potentially competitive systems, they claim to have found that reference to price was not clear or common on the websites, with nearly all urging interested parties to call for quotes on a system. Webstech had also searched online in pursuit of an understanding of which companies held a strong position in the market, a goal which was also not effectively met by this method. There was said to be no way by looking at their websites to determine the size or scope of any of those firms.

#### 5.1.2 What information Webstech needed

These discussions concerning their existing market orientation and intelligence lead to a conversation about the goals they had for this research. Those research objectives were briefly touched upon in section 1.3, but will be further explored here with an attention to their motivations to create a fuller picture in advance of a discussion about the effectiveness of this process. The focal areas, in which Webstech hoped to gain relevant experiential understanding of market specific actors, were determined to be market orientation, product expectations, determination of relevant target areas and crops, considerations of potential market entry modes, barriers to the use of international vendors, effective publicity and outreach strategies, and a greater understanding of potential competitors in the market.

Market orientation was agreed to mean the awareness, understandings, values, and motivations that surround the use of bin monitoring technology as interpreted by the individual actors in question and was hoped to help Webstech gain a better understanding not only of the market in question, but to shed light on potential differences between their experience in other markets. Webstech was also interested the expectations that respondents had for this type of product, hoping to explore opinions regarding the utility of this technology and features that would increase likelihood of utilization. The determination of relevant target areas and crops was also made a goal, as Webstech felt that there was a particular benefit in knowledge about perceived regions with high storage demands and opinions regarding specific types of stored material that may be thought to benefit from their type of monitoring technology. Webstech was also concerned with potential market entry modes, specifically the reaction that respondents might have to the idea of this technology as a rental item, which was one of the market entry strategies they were strongly considering. To this end they hoped to learn not just about the reactions the respondents had about this technology as a rental item, but also what types of and the frequency with which they rented equipment. Barriers to the use of international vendors was another topic that Webstech was particularly interested in knowing more about, based on a fear that there would be reservations about buying from a foreign manufacturer. They hoped to gauge that sentiment, but also determine any ways which might be thought to exist to combat those potential concerns over conducting business with a foreign supplier. Webstech claimed that they were interested determining which, if any, agricultural exhibitions they should consider attending as these were thought to be effective publicity and promotion strategies that also enabled them to make potential network connections with both attendees and fellow exhibitors in attendance. Finally, a focus on potential competitors was highlighted as important, with Webstech hoping to learn more about the performance and price of any similar products on the market which were known to the respondents.

#### 5.1.3 Questions answered

Generally speaking the process allowed for considerable insight into distinct and diverse understandings, motivations, and practices among the respondents. In that all but one person (J 2.1) knew that this type of technology existed, awareness among this group of respondents was considered to be high. Specific mention of reasons for the utilization of these technologies called attention to several issues that can be seen as very informative. Citing the fact that they are often paid according to the moisture content (F 1.1) and weight (D 1.1) of their products, or that they might want to store a commodity on the hopes that the price will be higher at a future date (F 1.1) provides clear motivations for the use of this type of product and illustrates a marked significance it might play in the profitability of their operations. In special interest to the market orientation goals, demographics of likely potential customers were mentioned by several respondents. Claims by three separate respondents that this technology was more well suited to larger operations (D 1.1, A 1.2, E 2.5) were contradicted by another who stated that in his opinion smaller grain elevators and many farmers are beginning to utilize equipment like this. (I 2.2)

The responses made mention of the importance of this technology (C 2.4, D 2.3), the usefulness of such a product (I 2.2), and the widespread nature of its use (B 1.1, J 2.1). Sentiment was also expressed that this product was more of a convenience than an investment item (C 1.1), and that it is largely unnecessary as older equipment and methods had worked for 30 years (D 2.3), while contrary opinion can be seen in the comment that “progressive farmers are aware of the tech and waiting for the cost to come down on basic systems. There should be a high adoption rate by younger generations of farmers, regardless of the size.” (E 2.5)

**Product expectations**

The respondents made mention to several personally held expectations and preferences demanded of a product of this nature. There was considerable interest in a product like this including a means by which to link and interface with other machinations such as fans and augers, but also communication devices like computers and cellphones (B 1.1, D 2.3, E 2.5, I 2.2). Other features that were highlighted as desirable were an ability to measure weight (D 2.3, J 2.1), sample multiple points in the stored material (D 1.1, E 2.5), and gauge outside conditions as well as those in the bin (D 2.3). One respondent who claimed to have a extensive history of dealing with this type of technology was particularly informative about his preferences for such a product:

*“It is also essential that any temp cable system has the ability to interface with a PLC system. Most all grain terminals have it setup where all the controls are on the PLC and everything is run from an HMI. Monitoring systems have to be very reliable and give consistent readings. There is so much trust on these readings and a huge amount of money at stake. Because of operations sometimes its not possible to move the grain for along time, and its not economical to start all the conveying equipment just to check the condition of the grain. It is so important that the temperatures are easy to check and give no false readings. Right now these cables seem to have a high failure rate which is unfortunate because they are very expensive and can only be replaced with the silo is empty so they have to be durable.”* (I 2.2)

This respondent, can be considered a very likely end user, and as such, his input can be viewed as particularly valuable to Webstech.

**Target areas**

The process, however, was less successful in determining the regions and crops that were thought to demand this technology. Among the few responses to this prompt, high moisture corn (J 2.1) and grain harvests (E 2.5) were mentioned as particularly susceptible to spoilage. In regard to regions that should be targeted, one respondent asserted that

*“The US cornbelt would be a good place to start. Indiana, Ohio, Illinois, Iowa, Minnesota. Places where they store corn outside in bunkers and piles would be a good target for this product.”* (I 2.2)

**Market entry**

Another thing that was very important for Webstech to determine was information which could be useful in forming a market entry strategy. As Webstech felt that rental might be an effective method of market entry, specific inquiry was made to the relationship each respondent had with renting equipment and their impressions of this product as a potential rental item.  One respondent claimed not to rent equipment but saw potential for this product as a rental item:

*“We don't really rent any equipment long term, but I think if you charged a monthly fee for bin monitoring, you would get a lot of people interested.”*(J 2.1)

One respondent cited ease of use as critical, (C 2.4) while another respondent claimed that due to the expense of rental being higher in the long run than purchase, they opt not to rent equipment, but to borrow and lend equipment among other farmers in the area and felt that the product was not fit for rental. (D 2.3) Claiming that they only rent items that are needed for one or two projects, one respondent felt that bin monitoring systems would be a good rental item in supplement to permanent installation:

*“There are times when grain storage is in high demand for a short period of time or when a grain harvest is particularly susceptible to spoilage. These would be opportunities to rent out this equipment on a temporary basis, perhaps for a month or season. This should not be the main method of revenue, though. Permanent installations will typically be in much higher demand than rental systems.”* (E 2.5)

**Barriers for international technology**

With regard to perceived barriers concerning international manufacturers and sales, there were a variety of positions and specific concerns that came to light through this process. Larger companies were said to be more likely to use foreign suppliers, (I 2.2) while smaller firms and farmers, having a preference for local companies (J 2.1) were seen as less so. One respondent cited a lack of locally trained support staff as a potential concern, but one which could be mitigated by selling the product through grain storage providers that would be responsible for installation and maintenance. (E 2.5) Another response that represented a thorough consideration of these issues can be seen as having been particularly insightful:

*“I would consider the following as a “barrier” for purchasing a product from an oversea country. 1) Does the company provide in-country sales, tech, and warranty support? I would not pick a company if there was a warranty/mechanical issue and a representative to come see the problem in the field could not resolve the issue in a timely manner. 2) Is the product more expensive than domestic competitors? Also, are the replacement parts more expensive and take longer to ship to the US? 3) Is the owner’s manual properly translated into English and provides comprehensive coverage of the product? Does the factory help desk speak clear English in case I have to call with technical problems? 4) Are units available in imperial units? Moisture is typically measured as a %, but temperature, volumes, and weights might have different units. American farmers think in degrees Fahrenheit, pounds, bushels, acres, etc.”* (D 2.3)

**Publicity, outreach, and exhibitions**

With regards to effective publicity, outreach strategies and exhibitions, only two respondents replied to this prompt. One mentioned a specific exhibition thought to be particularly relevant, but also gave their impression of the efficacy of this practice:

*“I attend a few shows a year. The biggest one focused just at the grain industry is the GEAPS expo.*[*T*](http://www.geaps.com/exchange/expo.cfm)*here are also many regional farm shows that are an excellent way to showcase a product.”* (I 2.2)

The other respondent claimed to attend Sioux Falls Farm Show, Farm Fest, Dakota Fest, and the Winter Crop Expo. (J 2.1)

**Identification of competition**

This objective was meant to create a better understanding of the competition that Webstech will encounter in the market, and certain manufacturers were mentioned as being considered the most well-known by specific respondents. Matthews, (B 1.1) Agritronix, Dickey-John, General Tool, (D 2.3) Agridry, (E 2.5) and Tri-State Grain Conditioning, Rolfes @ Boone, and Temputech (I 2.2) being those companies. Two respondents (B 1.1, E 2.5) made direct mention of the fact that in their experience this technology was something that was sold in connection with storage systems themselves. Citing an assumed tendency towards partnership, it was advised that pursuing such an inter-firm collaborative agreement would be a means to address several of the concerns in this research. By partnering with an American company it was suggested that Webstech could alleviate concerns about foreign market firms and their inability to conduct service on the product or for the customer, as well as achieve an effective  means by which to enter the market.

5.1.4 Additional knowledge gained
As the approach allowed for respondents to speak freely about the issues they personally felt were relevant, there were things that came out in the process that were not among the explicit research goals of the firm, but did present interesting and pertinent knowledge for the company.

One respondent who was particularly interested in the product and the process was directed to the website and reported more thoroughly on the specific product in question:

*“Your website is really good, the product really surprised me because it is very unique compared to what is currently offered in the US. It would be a great way to monitor temps in places where we have temporary storage (grain is piled outside on the ground or in a bunker) typically we would have to go out and probe these piles to find a temp which involves walking all over the grain. It could definitely be a useful tool here, and it makes sense to rent it because it wouldn't always be used in a permanent storage spot.”* (I 2.2)

Three respondents mentioned concerns about pricing, one claiming that this type of monitoring system in their opinion would be worth $1000-$2000,(J2.1) another that $500 was reasonable (C 2.4), and a third claiming that:

*“Right now a $400 portable meter and a few minutes of my time are satisfying my needs, so your system would have to offer a lot of cost saving features to be a viable option.”* (D 1.1)

Additionally one respondent mentioned that as a rental item they would be willing to spend $75-$150 a month. (J 2.1)

Furthermore, one respondent mentioned ways in which the product could potentially be marketed, citing an interface with drying implements and their benefits over traditional methods as a means for reducing bin drying costs which might appeal to buyers. (D 2.3)

In regard to the research, two respondents made mention of other websites that might be a benefit in conducting this research: Aggriculture.com (D 1.1) as well as AgTalk and The Combine Forum. (E 2.5)

### 5.2 Evaluation of the process

#### 5.2.1 Costs

Having presented the information that came from the reddit respondents it is relevant to account for the efforts it took to retrieve it. The process was most likely less time consuming and definitely costly than traditional methods would have been, such as focus group interviews or hiring a market analysis company. By a function of the asynchronous nature of the medium the threads and private messages did not demand heavy involvement after their posting and responses to incoming messages could be undertaken when time allowed. The direct costs associated with rewarding respondents were minimal and wound up totaling under 25 dollars altogether.

#### 5.2.2 Resistance

As mentioned in section 3.6 that there are a number of reddit users who have a high degree of disdain for use of the medium for commercial purposes, this had to be considered throughout the process. While there was no explicit resistance, mention should be made that there was one user who took it upon himself to use the information provided in the post to determine and publicize the identity of the firm in question. Using the fact that they made a grain monitoring technology with multiple points of measurement and were based in Denmark, this respondent entered the thread by announcing that he thought he had found the product and attaching a link to a video embedded on the Webstech website. (K 1.1) While there was no active intent or attempt  to obscure the identity of the firm, this does highlight a potential concern over any assumed anonymity in the process.

### 5.3 Benefits

Based on the findings, it seems safe to conclude that utilizing reddit to attain foreign market intelligence has been beneficial for Webstech. First, the responses gathered in the course of this research touched on many relevant issues and represented a broad cross section of relevant respondents. The methods employed achieved these goals very inexpensively and in doing so added valuable ties to the network of the firm. The process was effective in its highlighting awareness, interpretations, and understandings of the technology, as well as motivations behind its use. These factors can be seen as highly valuable in developing a fuller understanding of some of the perspectives that exist in the marketplace.

Second, personal preference and expectations for products like this were touched upon by many of the respondents which may be beneficial to the firm both in promoting and selling current products in that market, and in developing future ones that meet those needs. Additionally, the fact that many of the respondents claimed that a preference would be a system that took measures in various points of the stored material is especially significant as that functionality is a key distinction of the Webstech system.

Third, determination of a set of target regions and crops felt to be pertinent to the respondents is another benefit resultant of this process which helps create a better defined understanding of the market and can be useful in any activity the firm decides to undertake there by providing market relevant focal points.

Fourth, the replies that some respondents had to questions about their involvement with the rental of equipment and the suitability of this product as a rental item can be seen as especially beneficial as they provide several reactions to a strategy that Webstech is explicitly considering in its market entry mode selection. Responses to this point illustrated the fact that rental was a generally widespread practice among the respondents, and that that the product was seen by most to be an appropriate rental item.

Fifth, specific factors regarding concerns about foreign suppliers and any attendant issues that might act as barriers were also brought to light by this process. Especially beneficial in this context were the various suggestions that were offered as potential means to avoid those barriers. While some of the approaches which were proposed may lie outside the capabilities of Webstech, being aware of and proactive in combating those they can would be decidedly beneficial.

Sixth, Webstech, with an interest in using exhibitions and conferences as a tool of both promotion and networking can be said to have benefitted from recognition of this tactic as effective in both of those pursuits, and has been made aware of several opportunities which may exist by the elicited responses.

Seventh, specific mentions of companies which the respondents felt represented direct competition that currently operate in the market were a useful outcome of the research. Further investigation of these firms, their product lines, and any pricing schedules would almost certainly help Webstech position themselves in a more competitive manner in the marketplace. Additionally, being made aware of partnerships that exist between storage system manufacturers and monitoring system firms provided insight to inner workings of the market and exposed potential avenues for market integration.

Finally, aside from the knowledge benefits outlined above, mention must be made of the manner in which this process can be seen to have established an international network for Webstech. By connecting a representative of the firm with this collection of varied and diverse actors in a foreign market, potentially valuable connections with potential impacts for the firm have been made. A particularly valuable benefit of this process stemmed from the involvement of one specific respondent who claimed to be an operations manager at a grain terminal. With a purported eight year career in the industry spent working for large companies across the United States, this respondent, by measure of contribution, was certainly the most engaged in the process. While the majority of the respondents represented perspectives of private farmers or employees of smaller operations, which are still sources of viable information and network ties for this firm, the potential in this tie can be seen as distinct. Large scale industry involvement aside, this respondent was open to the idea of continued involvement and invited further contact. If this network can be and is maintained, the benefits to the firm may be significant.

Being hampered by a lack of the traditional resources which relate to foreign market understanding, such as network connections and the capital needed to afford more traditional market research efforts, this case study has shown involvement in online community (reddit) to have benefits for the company in question (Webstech).

### 5.4 Drawbacks

This process, while thought to have generated distinct and valuable foreign market intelligence, was not without its drawbacks. The fact that this it took place over the Internet was responsible for a great many of its strengths, but may also be an area of potential concern. This type of market research activity demands an understanding of how the particular online community operates, as well as a willingness to become involved in a marketing practice that is untested, random to a high degree, and provides no guarantees.

Utilization of online communities can be said to have accessed a very distinct set of respondents, but in doing so has undeniably excluded others. By demanding an involvement in this particular online community this respondent pool has left out segments of the population that are not members of the site, and by extension, those that are not users of the Internet. Another potential drawback to conducting research by way of online communities is that the likely profile of a reddit member may skew towards a younger demographic and leave other more experienced voices out of the debate.

Additional drawbacks lie in the fact that the respondents in this case are relatively few and to a certain degree arbitrary. Involvement in general demands that the user sees the post in the short window of time that it is on the site, but considerations of the time of day the post was made may well affect the potential for respondents in various time zones. This also leads to the wide potential audience and the implication that positions that they hold may be widely disparate from others in very similar positions.

As opposed to more costly, traditional, and professional methods this process does not allow for a high specialization of the audience. While market research firms may spend large sums of money to reach particular and targeted audiences, this process demands of researchers that they settle for those that respond.

Another drawback relative to this process was a propensity for some respondents to seemingly put less effort into their responses as the process went on, and for others to drop out altogether. In the same vain, there were certain questions and issues that were very difficult to generate responses to. This process showed a weakness in that even after repeated attempts the respondents were able to simply ignore specific questions. Most often these questions related to where the respondents lived.

One potential drawback to the process is a potential lack of viable voices in regard to the subject and industry in question. Some topics may be found to have a more devoted and active Internet presence, while others may occupy a field that is not highly represented in online social networks.

Furthermore, this research design was particularly well suited to this case because of its focus on the American market, as the majority of the users of reddit are from the United States and speak English. The same results would most likely not have been attainable if the market in question was somewhere else and communication was incapable of being conducting in a popular and common language.

Additionally, there is a very real risk that efforts such as the ones conducted in this research for Webstech can potentially backfire and be met with criticism and resentment by members of an online community who do not wish to see it used as a marketing tool. Any resultant negative associations with the firm would be a decidedly unfavorable outcome.

Most importantly however, as the format of this research process leaves no means to easily ensure that respondents are who they claim to be, and in that sense that they actually represent the market or industry intended to be studied; there may be a very real concern over the how well the results truly realize their stated goals. In this case we trust that they are because their responses from a professional point of view make sense and assume that the value of reddit gold is not high enough for anyone to attempt to deceive. None the less, it is important to be critical of the data and not necessarily take everything at face value. Forming a market entry strategy based on market intelligence of this kind alone would therefore be somewhat risky.

### 5.5 Conclusions on the case results

In conclusion, this process was effective in retrieving useful market information for Webstech. Furthermore, it provided an understanding of some of the benefits and drawbacks to the utilization of reddit as a respondent pool. While a real concern can be said to lie in the small sample size of the respondents and how that may or may not represent the market effectively, the responses that were gathered were illustrative of the perspectives of a varied cross-section of relevant actors in the market in question, and produced insights to several of the areas and issues that Webstech had highlighted as particularly important. In addition to those explicit goals, there also emerged perspectives, opinions and understandings that provide a sense of the issues that the respondents themselves felt to be pertinent in creating a full picture of the factors at play in the case. While the respondents were a random and arbitrary group, and issues emerged regarding a propensity for the responses from some respondents to become less considered as the process continued, an important factor to consider is the way in which this process was able to create at least a primary market orientation at very little cost to the firm in comparison with more traditional market research methods which demand a considerable outlay of time and money.

### 5.6 Evaluation of the merged theoretical framework based on the case results

The results of the case study have shown that reddit, under a certain set of circumstances, can be a viable source of foreign market intelligence. That is to say that given that the specific topic or industry has a presence on the site, that involvement of marketing practitioners and activity is not rejected by the attendant community, and that knowledge of or involvement in the market in focus is represented by its members, that access to a distinct collection of market intelligence exists in the social network created by an online community.

Born global firms are said to be internationally oriented, knowledge intensive, customer focused, and make use of creative means to address and overcome resource deficiencies to be competitive in the global marketplace. In the execution of the case study a network rich in market intelligence with particular relevance to these characteristics and objectives has been inexpensively created. The effectiveness of this process has shown that there is a demand for a re-evaluation of what constitutes various resources, their relative importance, and the means by which to access them as well as the costs traditionally associated with doing so. The networks imparted tacit knowledge and customer orientation by providing a glimpse of perspectives held by actors in foreign markets thereby increasing the working knowledge of the firm. By doing so in spite of the network poor position assumed to be held by born global firms, Webstech not being an exception, the case study has questioned the traditionally held focus on inter-firm ties in networks for the generation of knowledge and resources. Blended network theory perspectives at work in this research have shown that online communities function as an extension of social networks (Lin 1999) at the same time that the resource productive properties of business networks have been illustrated to exist in social networks.

This case, informed by an understanding of the concepts associated with network utilization, and overlaying social network theories (and constructions) of human and social capital, weak ties, and structural holes, have shown online communities to be a means to generate valuable knowledge. Structural holes, representing network ties and knowledge that were previously unavailable to the firm, and weak ties, representing information that is particularly diverse and non-redundant are tremendous resources that were both realized through this case. The traditional view of what constitutes a company’s resources in the resource based view of the firm is thereby not sufficient to understand the resources of today’s small born global firms and can gain from being merged with network and social network theory.

The case study conducted in the course of this research has created a network, and the results of that network’s use in market research has generated a collection of market intelligence. It is the application of the scale created by Jay Barney (1991) to determine the heterogeneous and immobile nature of resources and by extension their potential for competitive advantage, that this market intelligence can be weighed in regard to the resource based view of the firm. The networks and their informational benefits, considered valuable in their ability to enable the firm to conceive and implement strategies that improve efficiency and effectiveness, meet the first of these criteria. Shown to be rare in that these precise networks and resultant understandings are not be possessed by currently or potentially competing firms, they meet the second. Inimitability, the third measure in this scale, refers to an inability for those competing firms shown not to have these benefits, to obtain them. This measure is deemed to have been met by the fact that the exact arrangement of members and perspectives in the network created in the case study would be impossible to replicate exactly. It is that critical aspect of the network and equally unique intelligence that satisfies the fourth and final measure of this scale which demands that there be no strategically equivalent manner in which these attributes can be duplicated by competitors. It is a function of the competitive advantage, thereby seen to exist in the market intelligence created by this process, that the role that online communities can play in foreign market research demands consideration if one is to fully describe the resources held by born global firms in the contemporary marketplace.

# CHAPTER 6

## Limitations and Conclusion

### 6.1 Limitations and general applicability

The merged theoretical framework has shown to be effective in describing the process at hand, as evidenced by support provided by the case study. While a single case study is not sufficient to make generalizations according to Yin, case studies are generalizable to theoretical preposition. (Yin 2003: 10) The results of the case study can be used to make analytical generalizations related to the merged theoretical framework, but not to make general statements of the prevalence of any phenomenon. In the end, the theory is therefore seen to stand on its own as a vehicle for examining other cases.

As mentioned in Chapter 2, qualitative methods in the form of computer mediated semi-structured interviews were employed as the means by which to collect data in the execution of this thesis. The critical role the researcher plays in the application of qualitative methods carries with it certain implications and limitations. There is the inherent risk that different researchers would have asked different questions, received different answers, and reached different conclusions. This concern is especially relevant given the implementation of these interviews via netnography, as the same issues can be seen to extend to the determination and selection of the online community. As netnography is an online variant of traditional ethnography, it is limited in many of the same ways that ethnography is. Being based on developing insight through involvement, observation, and interpretation, the constructions held by the researcher can have a profound effect on the research – also in this case. Despite these issues, the utilized approach captures personal perceptions of the respondents which are essential to the validity of the results of the case  and the means by which to develop the merged theoretical framework.

While there are, as mentioned earlier, some potential restrictive factors concerning the market in question and the presence of relevant online communities relevant to various industries, the approach of this thesis is thought to be generally applicable in that it could potentially be conducted by other companies in other sectors.

6.2 Conclusion
As a result of the interconnected nature of the world as it exists in the modern age of the Internet, social and business spheres have in many ways merged and created new and different methods and practices which can be used in international business. The argument of this thesis is that this demands a new way of looking at and understanding what constitutes a firm’s resources – specifically in the case of young, internationally oriented companies which from their beginning have a strong focus on exporting their products or services without the organization and financial strength of large multinational corporations. This research has attempted to bring together the disparate existing theories to achieve a better understanding of the opportunities available to firms today in the collection of foreign market intelligence online.

The initial hypothesis of this thesis was that merging the resource based view of the firm with newer theory on the born global firm which the resource based view is meant to describe, and including the theories necessary to relate online communities and their implications on the role that networks play in both, would provide a fuller framework by which to understand and assess what can be considered to constitute resources for contemporary companies.

This hypothesis was confirmed as the framework allowed for connections among the disparate theories to illustrate how knowledge is a resource, how networks can be considered to be as well, and how online social networks can be seen as extensions of business networks, but also viewed as more productive and valuable by virtue of their introduction of novel information, which is a product of their accessing structural holes and weak ties as defined by Burt and Granovetter. To put it another way, it is by application of the merged theoretical framework at use in this thesis that networks and especially social networks were determined to be a resource that was not largely considered in traditional theory. Further extension of the framework in the form of contemporary social network theory about online communities was brought into the discussion, and, as evidenced by the reddit case study, online communities proved capable of being able to provide distinctively valuable foreign market intelligence and thusly constitute a resource.

The case study conducted in the course of this research was overall an effective means by which to test the benefits and drawbacks of the utilization of reddit in the generation of foreign market intelligence. The knowledge goals of Webstech were met, but equally relevant information which came of the process and was indicative of the benefits, was the generation of tacit, market relevant understandings held by a wide variety of actors in the market in question. Additional benefits can be said to lie in the fact that the costs of undertaking this process were minimal, and that the process added to the network ties of the firm. That the small number of respondents were arbitrary, and that there was a distinct lack of any way to ensure completion of the process, and as such there remained issues that were not thoroughly addressed, were among some of the drawbacks to the utilization of reddit in the generation of market intelligence for Webstech in this case study. The most important drawback, however, was the fact that there is no way to certify that the respondents are who they claim they were, or that their opinions speak to a general mindset in any way.

The understanding of social networks as a resource, and by extension, online communities as a tool for foreign market intelligence, was also shown by the framework to be particularly relevant to born global firms with international orientations, a strong focus on customer needs, and fewer connections in their professional networks. But, while born global firms are considered generally to be less professionally connected, the framework showed them also to be more likely to behave in ways that provide access to the information available in social networks which speaks to the next point. By highlighting proclivities in the behaviors of born global firms, as well as a lack of bureaucracy that might hinder other larger firms from attempting a similar process, this framework has shown the various ways in which, in contradiction to resource based assumptions, these resources are more easily realized by these smaller, more responsive types of firms.

It can be concluded that the merged theoretical perspective proposed in this thesis has indeed provided a new and fuller framework for reaching the intended understanding by creating a way to effectively conceptualize, describe, and assess what constitutes a resource in today’s global marketplace. The resource based view of the firm has shown continued relevance as an effective lens through which to view and define a born global company as a sum of its resources, while perspectives on social networks have allowed for the consideration and inclusion of factors in the contemporary marketplace that can have a marked effect on one of those resources, namely the knowledge and understanding of foreign markets.

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# Appendix 1.1

[Grain monitoring systems - why or why not?](http://www.reddit.com/r/farming/comments/14zi1e/grain_monitoring_systems_why_or_why_not/) ([self.farming](http://www.reddit.com/r/farming/))

submitted 11 months ago by [rowboatcop](http://www.reddit.com/user/rowboatcop%22%20%5Ct%20%22_blank)

Øverst på formularen

In the interest of full disclosure I'll admit that I am not a farmer. I am however writing a project for a Danish company that makes grain monitoring devices which alert you to temperature and humidity issues. The technology would theoretically increase yields but the company has not been able to convince farmers that it is worth the investment. I know we all hate marketing...but I hoped you might have some thoughts?

Nederst på formularen

all 13 comments

[[–]](http://www.reddit.com/r/farming/comments/14zi1e/grain_monitoring_systems_why_or_why_not/)[**kubigjay**](http://www.reddit.com/user/kubigjay) [+2] 6 points 11 months ago (**6**|**0**)

Øverst på formularen

I'm afraid this system already exists.

On our farm we had an automated system for over 15 years. It constantly monitors the grain in our drying bin and will kick on the fan, heat, or augers as needed.

The more modern system have a phone app that will alert you if anything goes astray and even lets you set parameters by phone.

So if you are the type of farmer that needs this information - you probably already have it. It is sold as an option with new bin installation.

Info on one of the systems: <http://farmindustrynews.com/grain-handling/remote-grain-dryer-monitoring-mathews-company>

Nederst på formularen

[[–]](http://www.reddit.com/r/farming/comments/14zi1e/grain_monitoring_systems_why_or_why_not/)[**rowboatcop**](http://www.reddit.com/user/rowboatcop) [[S](http://www.reddit.com/r/farming/comments/14zi1e/grain_monitoring_systems_why_or_why_not/)] 3 points 11 months ago (**3**|**0**)

Øverst på formularen

Wow, thanks! The company in question knows that is has competition in the states, but is very excited about it's ability to make the end user aware of any issues by alerting them via text and email - a moot point if that already exists as you describe it. The tactic of partnering with bin companies is brilliant though... Can you think of any smaller scale bin manufacturers that are highly esteemed?

Nederst på formularen

Nederst på formularen

[[–]](http://www.reddit.com/r/farming/comments/14zi1e/grain_monitoring_systems_why_or_why_not/)[**kubigjay**](http://www.reddit.com/user/kubigjay) [+2] 3 points 11 months ago (**4**|**1**)

Øverst på formularen

The problem is that the bin companies already have partnerships. Or the people installing the bins are already dealers for the dryer/control systems.

Someone like [Butler](http://www.butlermfg.com/about_us) or [Shivvers](http://www.shivvers.com/control_accessories.html%22%20%5Ct%20%22_blank).

I would also look into the patents because it wouldn't surprise me if there isn't a generic patent for monitoring a grain control system by remote interface.

Nederst på formularen

[[–]](http://www.reddit.com/r/farming/comments/14zi1e/grain_monitoring_systems_why_or_why_not/)[**eosha**](http://www.reddit.com/user/eosha) 4 points 11 months ago (**4**|**0**)

Øverst på formularen

1) This is not really an investment item, it's a convenience item. I can always just climb in the bin and check the moisture.

2) All my grain goes through a moisture meter in the combine, then again in the dryer. If it's dry when it goes into the bin, do I really need to add a third?

3) Text/email alerts aren't difficult or unique. As a hobby, I build dryer monitoring systems that alert farmers via text message when their dryer shuts off.

4) Would I pay $50 for the system? Probably, just to keep me from having to climb ladders. Would I pay $500? Maybe, if I could figure out a way that this system did something I couldn't do otherwise. Would I pay $5000? Hell no.

Nederst på formularen

[[–]](http://www.reddit.com/r/farming/comments/14zi1e/grain_monitoring_systems_why_or_why_not/)[**philbosaurusrex**](http://www.reddit.com/user/philbosaurusrex) [+2] 2 points 11 months ago (**2**|**0**)

Øverst på formularen

Are you talking about a system that would monitor the conditions inside of a grain bin, or in the field during the growing and/or harvesting seasons?

Nederst på formularen

[[–]](http://www.reddit.com/r/farming/comments/14zi1e/grain_monitoring_systems_why_or_why_not/)[**rowboatcop**](http://www.reddit.com/user/rowboatcop) [[S](http://www.reddit.com/r/farming/comments/14zi1e/grain_monitoring_systems_why_or_why_not/)] 2 points 11 months ago (**2**|**0**)

Øverst på formularen

Sorry for being unclear... this is for harvested grain, in the bin. My initial searches make it seem that spoilage and rot is an issue but the company says that those seem not to be an effective motivator for sales. I would appreciate any insight into the process and what kind of loss might be expected and accepted in cases like this.

Nederst på formularen

Nederst på formularen

[[–]](http://www.reddit.com/r/farming/comments/14zi1e/grain_monitoring_systems_why_or_why_not/)[**philbosaurusrex**](http://www.reddit.com/user/philbosaurusrex) [+2] 6 points 11 months ago (**6**|**0**)

Øverst på formularen

I don't know how the process works on other farms and grain brokers, but here is how the process works for me:

All selling points (grain brokers, mills, etc.) usually take a moisture sample at the time of sale. The moisture content determines if the grain can be stored as is, or if it has to be run through a grain dryer prior to storage. Dry grain will store very well, wet grain will mildew/rot/burst into flames. Typically the selling point will dock the farmers pay if the moisture is too high to be stored as is. Some sellers dock a flat rate, others charge drying fees and/or adjust the volume to a dry volume.

Most farmers let the grain dry naturally in the field. Once a harvest begins, we sample the moisture to make sure it meets the dry criteria. If we have to pick the grain wet, we either a) dry it ourselves, or b) calculate the dockage and sell it wet to the broker in order to keep productivity up, or c) suspend harvesting until conditions improve and the grain drys naturally.

Dry grain stores very well if it stays dry. Grain bins should be kept free of roof leaks. Humidity typically isn't an issue because we use high volume fans to force air through the stored grain. Some bin/fan combinations can actually dry the grain in the bin without first having to run through a crop dryer.

Would a small time farmer like me be interested in a self contained grain bin monitoring system? No. We have a moisture tester, and we can always prob into the bin and take a sample if we need to. The important thing to do is to make sure the grain is dry **prior** to storing. Moisture rarely increases inside of a bin due to humidity, in most cases it actually lowers a few tenths of a percent due to the bin fans.

So who should your target demographic be? Grain brokers, mills, and farms that store in bulk. Some places store grain in large warehouses rather than bins, which are more susceptible to humidity changes. For the typical farmer, we know what's going on with our stored grain with the help of a $400 moisture tester, a $50 grain probe, and a $15 thermometer/humidity dial.

Nederst på formularen

[[–]](http://www.reddit.com/r/farming/comments/14zi1e/grain_monitoring_systems_why_or_why_not/)[**kubigjay**](http://www.reddit.com/user/kubigjay) [+2] 3 points 11 months ago (**3**|**0**)

Øverst på formularen

Where we farm the majority of farmers dry it themselves. We farm corn and can't wait for it to dry in the field before we have to move to beans.

Nederst på formularen

[[–]](http://www.reddit.com/r/farming/comments/14zi1e/grain_monitoring_systems_why_or_why_not/)[**rowboatcop**](http://www.reddit.com/user/rowboatcop) [[S](http://www.reddit.com/r/farming/comments/14zi1e/grain_monitoring_systems_why_or_why_not/)] 2 points 11 months ago (**2**|**0**)

Øverst på formularen

Firstly, thanks for your input, every little bit makes this issue clearer for me. The product that they are currently interested in testing in the states is for smaller bins, so the target group would be small scale farmers... the type you seem to think can easily do the same without the need for expensive equipment. Can you think of any other message boards where I might be able to ask a series of questions about grain storage?

Nederst på formularen

Nederst på formularen

[[–]](http://www.reddit.com/r/farming/comments/14zi1e/grain_monitoring_systems_why_or_why_not/)[**philbosaurusrex**](http://www.reddit.com/user/philbosaurusrex) [+2] 2 points 11 months ago (**2**|**0**)

Øverst på formularen

You might try agriculture.com. I've never spent any time on the forums other than browsing classified ads and checking market prices.

If I may make a suggesting, it might be worthwhile to investigate a system that could take moisture samples from multiple points in the bin. Since each load you place in the bin might have different moisture contents, its possible to have a volume of wet grain get buried in the center of the pile, creating possible problems.

Our current set up involves physically entering the bin and driving a probe to a desired depth, or opening a door and collecting a sample from the "front" of the grain pile. Having a system that read multiple points from the entire bin would eliminate the guess work from old fashioned sampling methods, and could be marketed as reducing in bin drying costs. I think your best target demographic should be farmers who utilize [in bin drying systems](http://www.agri-systems.com/in-bin-dryer.php). I can PM you a schematic of what I have in mind if you'd like.

Nederst på formularen

[[–]](http://www.reddit.com/r/farming/comments/14zi1e/grain_monitoring_systems_why_or_why_not/)[**boyfly**](http://www.reddit.com/user/boyfly) 2 points 11 months ago (**2**|**0**)

Øverst på formularen

[AgriDry](http://www.agridryllc.com/) has a decent product that controls fans based on the conditions you want to maintain in the bin. It can be remotely controlled in various ways with optional add-ons.

Nederst på formularen

[[–]](http://www.reddit.com/r/farming/comments/14zi1e/grain_monitoring_systems_why_or_why_not/)[**Triviaandwordplay**](http://www.reddit.com/user/Triviaandwordplay) 1 point 11 months ago (**2**|**1**)

Øverst på formularen

A little extra reasons why farmers might have equipment for drying and storing certain crops in the first place.

Farmers are often paid according to moisture content of their products.

A Farmer might want to store a commodity on the hopes that the price will be higher at a future date.

Nederst på formularen

[[–]](http://www.reddit.com/r/farming/comments/14zi1e/grain_monitoring_systems_why_or_why_not/)[**Maybe\_not**](http://www.reddit.com/user/Maybe_not) 1 point 11 months ago\* (**2**|**1**)

Øverst på formularen

I think I've found the product(see the video): <http://www.webstech.dk/en/home>

You put X amount of balls into the grain, and then they will transmit data to you from the storage. It might be good for farmers who dry their grain a lot, so we can make sure no hot spots are forming in the grain. But depending of the cost to buy it, we might as well just do it manually.

# Appendix 1.2

[Grain monitoring systems - why or why not? (x-post from r/farming)](http://www.reddit.com/r/Agriculture/comments/14zjwg/grain_monitoring_systems_why_or_why_not_xpost/)([self.Agriculture](http://www.reddit.com/r/Agriculture/))

submitted 11 months ago by [rowboatcop](http://www.reddit.com/user/rowboatcop%22%20%5Ct%20%22_blank)

Øverst på formularen

In the interest of full disclosure I'll admit that I am not a farmer. I am however writing a project for a Danish company that makes grain monitoring devices which alert you to temperature and humidity issues. The technology would theoretically increase yields but the company has not been able to convince farmers that it is worth the investment. I know we all hate marketing...but I hoped you might have some thoughts?

Nederst på formularen

all 4 comments

[[–]](http://www.reddit.com/r/Agriculture/comments/14zjwg/grain_monitoring_systems_why_or_why_not_xpost/)[**pourfarmer**](http://www.reddit.com/user/pourfarmer) [+2] 2 points 11 months ago (**2**|**0**)

Øverst på formularen

How would it increase yields?

Nederst på formularen

[[–]](http://www.reddit.com/r/Agriculture/comments/14zjwg/grain_monitoring_systems_why_or_why_not_xpost/)[**rowboatcop**](http://www.reddit.com/user/rowboatcop) [[S](http://www.reddit.com/r/Agriculture/comments/14zjwg/grain_monitoring_systems_why_or_why_not_xpost/)] 1 point 11 months ago (**1**|**0**)

Øverst på formularen

Perhaps yield is the wrong term... As I understand it, the sensors would alert users to conditions that would result in lost or rotted material, thereby preventing that potential loss. The yeild would remain the same but more of it would make it to market.

Nederst på formularen

Nederst på formularen

[[–]](http://www.reddit.com/r/Agriculture/comments/14zjwg/grain_monitoring_systems_why_or_why_not_xpost/)[**pourfarmer**](http://www.reddit.com/user/pourfarmer) [+2] 2 points 11 months ago (**2**|**0**)

Øverst på formularen

so its a bin monitoring system? I am pretty sure there are several our there already. Some larger farmers around here use them, If you dont have the time or ability to monitor your grain in storage manually then they are a great idea, and wouldnt take long to pay for the system with today's commodity prices ... good luck with your project!!

Nederst på formularen

[[–]](http://www.reddit.com/r/Agriculture/comments/14zjwg/grain_monitoring_systems_why_or_why_not_xpost/)[**rowboatcop**](http://www.reddit.com/user/rowboatcop) [[S](http://www.reddit.com/r/Agriculture/comments/14zjwg/grain_monitoring_systems_why_or_why_not_xpost/)] 1 point 11 months ago (**1**|**0**)

Øverst på formularen

Thanks for your input, every little bit helps. The company knows that it has competition in the states, but is very excited about its ability to make the end user aware of any issues by alerting them via text and email - But you're getting to the heart of the issue because they want to target smaller farms which seem content to monitor this the low-tech way they have for years. Do you have any idea what a bin monitoring system would competitively price for in the states?

# Appendix 2.1

[Working on a report about bin and silo monitoring technology...](http://www.reddit.com/r/Agriculture/comments/1c4h27/working_on_a_report_about_bin_and_silo_monitoring/) ([self.Agriculture](http://www.reddit.com/r/Agriculture/))

submitted 7 months ago by [rowboatcop](http://www.reddit.com/user/rowboatcop%22%20%5Ct%20%22_blank)

Øverst på formularen

And I am willing to give reddit gold to anyone who helps out with this but it will be a series of "interviews" (conducted in whatever manner is best suited to your schedule) regarding the perception of this technology, how to sell it, and your impressions of the market for something of this nature. Please PM me if you think you have a relevant background/experience and are interested in helping out!

Nederst på formularen

**bins and silos**

from **[D\_Farmer](http://www.reddit.com/user/D_Farmer%22%20%5Ct%20%22_blank)**sent 7 months ago

hey i manage my family farm in SW minnesota, we have ~170k bu of grain storage on site, wondering if i can help at all. let me know!

**re: bins and silos**

to **D\_Farmer** sent 7 months ago

Thanks so much for your response! It seems as though you have a background in the issues attendant to storing perishable material and that this might be a great fit to help me understand some of what we're dealing with. I'm going to break this up into several mails though, so it's not a wall of text and so I can springboard off some of your responses... Maybe about three emails in all, and when we're all done I'll give your account gold. I hope it's cool, I've actually never bought it before so you'll have to let me know what it's all about...

Anyway, as I said I am working with a company that wants to sell its bin and silo monitoring technologies in the U.S. and we hoped to learn more about your experience with and impressions of this technology, the way it's used, and the best means for bringing it to market in the states.

I guess I'll start with your experience with this technology and ask what your dealings with monitoring systems have been?

What are you primarily growing or storing and in what ways and have you dealt with spoilage in the past?

What means are you currently using to monitor your stored product? If you are using monitoring technologies, which are the most well known manufacturers in this field?

Do any of them have a technology/usefulness that the others do not?

What are the most important issues that a monitoring system should be capable of detecting?

How important is bin and silo monitoring and how critical is this technology to achieving that goal of monitoring the stored product?

What (in your opinion) is the impression and general attitude in the industry to this type of technology?

Are there any barriers to purchasing from a company that is based overseas (in this case Denmark) and if so, what might those be?

In the course of operating your farm do you/are you likely to rent equipment from a rental company?

If so what type of equipment and which rental company(ies)?

Do you think that this monitoring technology would make a viable rental prospect? Why or why not?

I think that's a good start and hope that you're not overwhelmed or put off by any of the questions. Please feel free to ask for some clarification on any of the issues raised, and I look forward to hearing from you and seeing what you have to say.

Thanks again

**re: bins and silos**

from **[D\_Farmer](http://www.reddit.com/user/D_Farmer%22%20%5Ct%20%22_blank)**sent 7 months ago

We've never used any bin monitoring systems.

We grow primary corn, and try to store it until summer months, sometimes we have soybeans as well.

No monitoring technologies in use.

I think a good monitoring system should keep track of heat, moisture, maybe test weight?

I've never really been introduced to this technology, but I really like the idea.

I'm guessing that there is a large market out there for bin monitoring in my area. I've never heard of anyone that's used it.

I think a lot of farmers prefer dealing with local companies, but I guess as long as you have a salesman in the area company location doesn't matter often.

We don't really rent any equipment long term, but I think if you charged a monthly fee for bin monitoring, you would get a lot of people interested.

Sorry if I'm not a whole lot of help but I tried haha.

**re: bins and silos**

to **D\_Farmer** sent 6 months ago

Hey, thanks again for your help on this... I did have a few follow up questions if you don't mind.

Where are you located? (so I can get a sense of the regions represented by this inquiry)

Were you aware of this technology before and what do you think are the barriers to its use?

Are there any specific crops and or regions that you think are particularly susceptible to spoilage and would most benfit from the montoring of their storage?

What would you be willing to spend to purchase a monitoring system that sent data regarding humidity and temperature to your phone to alert you to potential spoilage issues?

What would you be willing to spend on a monthly basis (as in rental) for just such a system?

Do you/have you ever attended expos or conventions regareding farming and agriculture? If so which ones?

**re: bins and silos**

from **[D\_Farmer](http://www.reddit.com/user/D_Farmer%22%20%5Ct%20%22_blank)**sent 6 months ago

I'm located in southwestern Minnesota, near Worthington. I wasn't aware that any of this technology had really existed. Not so sure on which crops are more susceptible. Higher moisture corn will be but as far as I know that's the only one I'm aware of. A monitoring system that could send info like that to my cell phone could be worth $1000-$2000 in my opinion, depending on bin size/number of bins etc. Rental I could see spending ~$75-$150/mo. Trouble there is that sometimes it's not in use for months at a time. Yes I attend the Sioux Falls (South Dakota) farm show, and Farm Fest near redwood falls, MN. Other good ones are Dakota fest in Mitchell, SD and the Winter Crop expo in Watertown, SD.

# Appendix 2.2

[Doing a report on bin and silo storage monitoring options and hoped to find some respondents (x-post from r/agriculture)](http://www.reddit.com/r/farming/comments/1c4jam/doing_a_report_on_bin_and_silo_storage_monitoring/) ([self.farming](http://www.reddit.com/r/farming/))

submitted 7 months ago by [rowboatcop](http://www.reddit.com/user/rowboatcop%22%20%5Ct%20%22_blank)

Øverst på formularen

I am willing to give reddit gold to anyone who helps out with this but it will be a series of interviews regarding the perception of this technology, how to sell it, and your impressions of the market for something of this nature. Please PM me if you think you have a relevant background/experience and are interested in helping out!

Nederst på formularen

**bins and silo's**

from **[intherhubarb](http://www.reddit.com/user/intherhubarb%22%20%5Ct%20%22_blank)**sent 7 months ago

I seen your post on r/farming. I'm an operations manger at a grain terminal, been doing this for the last 8 years in all parts of the United States working for large companies. I have some experience with using temp cables and aeration in storing grain.

**re: bins and silo's**

to **intherhubarb** sent 7 months ago

Thanks so much for your response! It really seems like your background is a great fit to help me understand some of the issues we're dealing with and I hope that we can both get something out of this! I'm going to break this up into several mails though, so it's not a wall of text and so I can springboard off some of your responses... Maybe about three emails in all, and when we're all done I'll give your account gold. I hope it's cool, I've actually never bought it before so you'll have to let me know what it's all about...

Anyway, as I said I am working with a company that wants to sell its bin and silo monitoring technologies in the U.S. and we hoped to learn more about your experience with and impressions of this technology, the way it's used, and the best means for bringing it to market in the states.

I guess I'll start with your experience with this technology and ask what your dealings with monitoring systems have been?

In what ways have you used or been exposed to them - and which are the most well known manufacturers in this field?

Do any of them have a technology/usefulness that the others do not?

What are the most important issues that a monitoring system should be capable of detecting?

How important is bin and silo monitoring and how critical is this technology to achieving that goal of monitoring the stored product?

What (in your opinion) is the impression and general attitude in the industry to this type of technology?

Are there any barriers to purchasing from a company that is based overseas (in this case Denmark) and if so, what might those be?

In the course of your work do you/are you likely to rent equipment from a rental company?

If so what type of equipment and which rental companiy(ies)?

Do you think that this monitoring technology would make a viable rental prospect? Why or why not?

I think that's a good start and hope that you're not overwhelmed or offput by any of the questions. Please feel free to ask for some clarification on any of the issues raised, and I look forward to hearing from you and seeing what you have to say.

**re: bins and silo's**

from **[intherhubarb](http://www.reddit.com/user/intherhubarb%22%20%5Ct%20%22_blank)**sent 7 months ago

My experience with this has been with systems such as Tri State Grain Conditioning (<http://www.tsgcinc.com/products.php>) Rolfes @ Boone (<http://www.boonegroup.com/index.cfm?fuseaction=cEcommerce.dspProducts&CategoryID=1000>) and temputech (<http://www.temputech.com/Bin%20Temperature%20Software.pdf>)

As a plant manager in charge of the grain in the silo's I rely very heavily on temperature readings. It is my best indicator on what is going on in that silo without having to go look in it or move the grain. An increase in heat can mean the grain is going out of condition due to respiration, or maybe there is bug activity which would also bring the temperature up. It also helps in managing aeration for cooling the grain, knowing the temps lets you know how long to run fans and can save electricity.

Some of the better technology out there will have the ability to run all the temperatures from a office computer or smart phone app. Some of the newer cables are digital or convert the signal to digital. cmciel.com makes a great product that you can put your cables on the same network that the other hazard monitoring equipment can be monitored on.

It is also essential that any temp cable system has the ability to interface with a PLC system. Most all grain terminals have it setup where all the controls are on the PLC and everything is run from an HMI.

Monitoring systems have to be very reliable and give **consistent** readings. There is so much trust on these readings and a huge amount of money at stake. Because of operations sometimes its not possible to move the grain for along time, and its not economical to start all the conveying equipment just to check the condition of the grain. It is so important that the temperatures are easy to check and give no false readings.

Right now these cables seem to have a high failure rate which is unfortunate because they are very expensive and can only be replaced with the silo is empty so they have to be durable.

I think the attitude in the industry right now is very positive. It is proven to be a very viable operations tool and with increased grain prices it is more important than ever to make sure it stays in condition. Even the smaller grain elevators and many farmers are installing this type of technology.

I think the bigger companies would have no problem buying overseas, it might be more challenging for the smaller ones and farmers.

We rent a lot of construction equipment. We also rent equipment or use a contractor for cleaning and fumigating silos.

I would have to know more about the proposed monitoring technology before I could judge whether it would be a good rental option.

**re: bins and silo's**

to **intherhubarb** sent 6 months ago

Thank you so much for your response, it has been a tremendous help. I did have a few follow up questions if you don't mind.

Are there any specific crops and or regions that you think are particularly susceptible to spoilage and would most benfit from the montoring of their storage?

Do you/have you ever attended expos or conventions regarding farming and agriculture? If so which ones?

Would you recommend a presence at one of these conventions to help sales in the U.S.?

In addition, I would greatly appreciate if you could take a look at the website -

<http://www.webstech.dk/en>

and let me know what you think about the product. If there is any information that you think is missing from their site that would be beneficial to know and might help drive interest in the product that would be a great help.

If at all possible with this information would you be able to suggest a sale price and/or a rental price that you would be comfortable paying?

Thanks again, you've been a great help and I greatly appreciate your efforts!

**re: bins and silo's**

from **[intherhubarb](http://www.reddit.com/user/intherhubarb%22%20%5Ct%20%22_blank)**sent 6 months ago

The US cornbelt would be a good place to start. Indiana, Ohio, Illinois, Iowa, Minnesota.

Places where they store corn outside in bunkers and piles would be a good target for this product.

I attend a few shows a year. The biggest one focused just at the grain industry is the GEAPS expo.<http://www.geaps.com/exchange/expo.cfm>

There are also many regional farm shows that are an excellent way to showcase a product.

Your website is really good, the product really surprised me because it is very unique compared to what is currently offered in the US. It would be a great way to monitor temps in places where we have temporary storage (grain is piled outside on the ground or in a bunker) typically we would have to go out and probe these piles to find a temp which involves walking all over the grain. It could definitely be a useful tool here, and it makes sense to rent it because it wouldn't always be used in a permanent storage spot.

I can't really be of much help on the price, its tough for me to compare it to anything comparable.

If you need any more help feel free to ask.

# Appendix 2.3

**Sorry to stalk you like this...**

to **philbosaurusrex** sent 7 months ago

But you replied some time a go to a post I put up about bin and silo monitoring options and the reasons for and against them... Since then I've been lurking in the farming and argriculture subreddits looking for respondents for the research I'm doing about storage processes on larger sized farms with little success. I am working with a Danish company who wants to market a silo monitoring system and wondered if you might be willing to help with a short series of interview questions regarding such a topic. I would be willing to give you reddit gold for your trouble, but understand ifyou think this is weird or are uninterested. Let me know what you think

**Sorry to stalk you like this...**

**from [philbosaurusrex](http://www.reddit.com/user/philbosaurusrex%22%20%5Ct%20%22_blank)****[+2]****sent 6 months ago**

Go ahead and ask away. My farm is really small time though so I might not represent your target demographic

**Thanks for taking the time to help!**

to **philbosaurusrex** sent 6 months ago

Thanks so much for your response! In response to your concerns, the smaller scale farmer represents an area the company I am working with is eager to better understand. I'm going to break this up into several mails though, so it's not a wall of text and so I can springboard off some of your responses... Maybe about three emails in all, and when we're all done I'll give your account gold. I hope it's cool, I've actually never bought it before so you'll have to let me know what it's all about...

Anyway, as I said I am working with a company that wants to sell its bin and silo monitoring technologies in the U.S. and we hoped to learn more about your experience with and impressions of this technology, the way it's used, and the best means for bringing it to market in the states. While you may not have used silos in the past am I wrong in assuming that you do store some portion of your crops after harvest?

What are you primarily growing or storing and in what ways and have you dealt with/experienced spoilage in the past?

What means are you currently using to monitor your stored product? If you are using monitoring technologies, which are the most well known manufacturers in this field?

Do any of them have a technology/usefulness that the others do not?

What are the most important issues that a monitoring system should be capable of detecting?

How important is bin and silo monitoring and how critical is this technology to achieving that goal of monitoring the stored product?

What (in your opinion) is the impression and general attitude among smaller scale farmers to this type of technology?

Are there any barriers to purchasing from a company that is based overseas (in this case Denmark) and if so, what might those be?

In the course of operating your farm do you/are you likely to rent equipment from a rental company?

If so what type of equipment and which rental company(ies)?

Do you think that this monitoring technology would make a viable rental prospect? Why or why not?

I think that's a good start and hope that you're not overwhelmed or put off by any of the questions. Please feel free to ask for some clarification on any of the issues raised, and I look forward to hearing from you and seeing what you have to say.

Thanks again

**re: Thanks for taking the time to help!**

from **[philbosaurusrex](http://www.reddit.com/user/philbosaurusrex%22%20%5Ct%20%22_blank)****[+2]** sent 6 months ago

First off all, I work with a small grain farm with older equipment and methods. Its worked for the last 30 years, and our family doesn't really intend to keep the farm in operation that much longer so we tend to stick to our old school ways rather than investing in newer technologies and infrastructure. Just keep that in mind when you review my responses so it doesn't skew your ideas for your target demographic.

We have several 1k bushel bins used mainly for storing seed crops, and one larger 10k bushel bin for storing and selling grain when we think market prices are high. We primarily store corn in the larger bin since we have the most of that to sell (roughly 40k -45k bushels in a good year). Spoilage isn't a problem because we have a batch dryer to bring the corn down to a suitable moisture level prior to storing it in the bin. Most people that have spoilage problems are storing grain at too high of a moisture level, or they have problems with rain water and humidity leaking into the bins. We use a high flow axial fan to force air through the 10k bu bin, so that helps to keep humidity down and prevent mold/mildew fumes from building up to unsafe levels.

Currently we monitor moisture in our grains with a portable moisture monitor. Its very old but it still gives consistent readings. We take samples from the combine grain tanks in the fields to see how dry the crop is in the field. If the grain is too wet to sell or store properly, we just let it dry out in the field for a while and resample. If we’re running corn through our batch dryer, we use the same moisture tester to let us know when the corn is dry enough for long term storage. Portable moisture meters cost a few hundred bucks, and take about 5 minutes to run a test. If we want to sample the moisture levels in a bin full of grain, we either pull a sample from a gate in the bin door or drive a probe into the grain pile from the top. The biggest disadvantage to our method is that you have to climb up onto the top of the bin with a probe, and you can only get samples from select places in the pile. The bigger the bin, the more likely your moisture levels will vary throughout the pile. Agratronix, Dickey-John, and General Tool are probably the most popular manufacturers for the portable meters that farmers are using.

Newer combines (which we don’t have) can also measure the moisture of the grain in the field. As long as your operator calibrates the yield monitor right, they give fairly accurate moisture readings without have to take the time to stop the combine and conduct a moisture test. A feature that our moisture meter does not have is a test weight feature. Test weight is the weight of fixed volume of the grain. Grain buyers use test weight as an indicator of the quality of the grain. If the grain is dry but the test weight is low, then you have a lower quality grain and you might even get penalized on the sale price.

A system installed in a bin should monitor moisture and temperature in various locations throughout the bin. A system should also measure outside air conditions. Since most bins have outside air blown into them, its important to know what is going on outside of the bin too. If you want to blow air through your grain to help dry it out, but there is 95% relative humidity that day, blowing in outside air isn’t going to help much. There are a few fan systems out there that are very good at drying the grain in the bin, and having the monitoring system interface with the fan controls would be fantastic (those systems might already do that, I’m not too familiar with how they work). For example, you set your desired moisture level in the bin, and the monitoring system turns the fans on and off during ideal drying conditions. Since in-bin grain drying takes longer, you could set the system to run automatically and not have to worry about forgetting to turn off the fan at night and sucking cool/damp air back into the grain. You could also fine tune the settings to work under the “best” drying conditions so that you minimize the running time of the fans and spend the least amount of electricity to do it.

Bin monitoring is very important. They key is to know the limits of what you can and can’t store. If you’re trying to store wet grain long term, it’s going to mold/mildew/rot inside the bin. Enough mold or rotten grain can cause the batch to get rejected for sale, leaving you stuck with a worthless product. Once the grain is inside the bin, the moisture remains relatively constant unless you’re using fans to force air through and dry it out. An in-bin monitoring system would be most beneficial to those who are using fans to dry the grain out in the ban rather than using a conventional grain dryer. Most small scale farmers would probably not justify the cost of an in-bin monitoring system unless they were using bin fans for drying.

I would consider the following as a “barrier” for purchasing a product from an oversea country. 1) Does the company provide in-country sales, tech, and warranty support? I would not pick a company if there was a warranty/mechanical issue and a representative to come see the problem in the field could not resolve the issue in a timely manner. 2) Is the product more expensive than domestic competitors? Also, are the replacement parts more expensive and take longer to ship to the US? 3) Is the owner’s manual properly translated into English and provides comprehensive coverage of the product? Does the factory help desk speak clear English in case I have to call with technical problems? 4) Are units available in imperial units? Moisture is typically measured as a %, but temperature, volumes, and weights might have different units. American farmers think in degrees Fahrenheit, pounds, bushels, acres, etc.

We do not rent equipment on our farm, unless we rent it from another farmer. I also lend/rent my equipment to other small farmers in the area as needed. If my combine were to burn down, I would pay my uncle down the road $30 an acre to harvest my crop rather than pay a rental company $50 an acre for the similar service. Owning your own equipment tends to give you the most profit in the long run, and we also self perform our own equipment maintenance. We also have a tendency to modify our equipment on a regular basis (our crop sprayer, for instance, is completely custom built from an old Dodge pickup) to suit our needs. Modifying rental equipment usually results in an extra cost from the rental companies.

I do not think the monitoring system would be viable for a rental concept, mainly because it is for a grain bin, which is usually lumped into the same category as a structure. Storing grain is usually a 6 month to a year process, so buying the equipment just makes more sense. One instance where renting the monitor would make more sense is for a grain broker who uses temporary storage facilities during the harvest season. Some companies have had so much grain come in at once, that they had to rent warehouse space or use plastic sheeting to cover outdoor piles of grain. Since this type of storage is much more susceptible to the elements (leaky roof, torn plastic, exposure to more humidity), a rental monitoring system is a much more viable solution.

I think that answered most of your questions. I know that they already have some systems being manufactured to accomplish similar tasks to what you’re describing. If that’s the case, you need to focus on how your system can offer better features for the same or a lower cost. You also want to consider how you could interface your system with continuous flow dryers and bin drying fans to make it more marketable to the users. Right now a $400 portable meter and a few minutes of my time are satisfying my needs, so your system would have to offer a lot of cost saving features to be a viable option.

## Appendix 2.4

**Sorry to stalk you like this...**

to **eosha** sent 7 months ago

But you replied some time a go to a post I put up about bin and silo monitoring options and the reasons for and against them... Since then I've been lurking in the farming and argriculture subreddits looking for respondents for the research I'm doing about storage processes on larger sized farms with little success. I am working with a Danish company who wants to market a silo monitoring system and wondered if you might be willing to help with a short series of interview questions regarding such a topic. I would be willing to give you reddit gold for your trouble, but understand ifyou think this is weird or are uninterested. Let me know what you think

**re: Sorry to stalk you like this...**

from **[eosha](http://www.reddit.com/user/eosha%22%20%5Ct%20%22_blank)**sent 7 months ago

I'm happy to help, but all our storage is in bins, not silos, if it matters.

**re: Sorry to stalk you like this...**

to **eosha** sent 6 months ago

Thanks so much for your response! I'm going to break this up into several mails though, so it's not a wall of text and so I can springboard off some of your responses... Maybe about three emails in all, and when we're all done I'll give your account gold. I hope it's cool, I've actually never bought it before so you'll have to let me know what it's all about!

Anyway, as I said I am working with a company that wants to sell its bin and silo monitoring technologies in the U.S. and we hoped to learn more about your experience with and impressions of this technology, the way it's used, and the best means for bringing it to market in the states.

What are you primarily growing or storing and in what ways and have you dealt with/experienced spoilage in the past?

What means are you currently using to monitor your stored product? If you are using monitoring technologies, which are the most well known manufacturers in this field?

Do any of them have a technology/usefulness that the others do not?

What are the most important issues that a monitoring system should be capable of detecting?

How important is bin and silo monitoring and how critical is this technology to achieving that goal of monitoring the stored product?

What (in your opinion) is the impression and general attitude regarding this type of technology?

Are there any barriers to purchasing from a company that is based overseas (in this case Denmark) and if so, what might those be?

Do you/are you likely to rent equipment from a rental company?

If so what type of equipment and which rental company(ies)?

Do you think that this monitoring technology would make a viable rental prospect? Why or why not?

I think that's a good start and hope that you're not overwhelmed or put off by any of the questions. Please feel free to ask for some clarification on any of the issues raised, and I look forward to hearing from you and seeing what you have to say.

Thanks again

**re: Sorry to stalk you like this...**

from **[eosha](http://www.reddit.com/user/eosha%22%20%5Ct%20%22_blank)**sent 6 months ago

1. What are you primarily growing or storing and in what ways and have you dealt with/experienced spoilage in the past? We grow corn and soybeans. Corn spoilage generally happens in the field before harvest, but soybean spoilage can happen if they're stored too wet. We have had mold and mildew develop in wet soybeans on occasion.
2. What means are you currently using to monitor your stored product? If you are using monitoring technologies, which are the most well known manufacturers in this field? We use various sensor technologies to monitor the product as it comes out of the dryer, but not in the bin afterwards. We generally just perform manual inspection every month or two during the storage season.
3. Do any of them have a technology/usefulness that the others do not? Not that I'm aware of.
4. What are the most important issues that a monitoring system should be capable of detecting? Moisture, temperature. Those will indicate the presence of a problem, which should then be inspected and diagnosed manually.
5. How important is bin and silo monitoring and how critical is this technology to achieving that goal of monitoring the stored product? Absolutely important. There's very little marketability for spoiled grain. Technology helps make monitoring convenient.
6. What (in your opinion) is the impression and general attitude regarding this type of technology? I can absolutely see the importance for operations with a few large bins, but for operations such as ours which has a dozen smaller bins which may or may not be used in a given year it seems less practical.
7. Are there any barriers to purchasing from a company that is based overseas (in this case Denmark) and if so, what might those be? Not that I'm aware of, but I've never done so in the past.
8. Do you/are you likely to rent equipment from a rental company? For occasional use (construction equipment, etc.), yes.
9. If so what type of equipment and which rental company(ies)? Trenchers, lifts, specialized drills, etc.

Do you think that this monitoring technology would make a viable rental prospect? Why or why not? It depends on the ease of use. If it was a probe on a stick of some sort, which could be easily inserted into the bin, it might be useful for checking the condition of suspect bins. If it's an installed product which needs to be in place before the bin is filled, most people will prefer to own it themselves.

## Appendix 2.5

**Sorry to stalk you like this...**

to **boyfly** sent 7 months ago

But you replied some time a go to a post I put up about bin and silo monitoring options and the reasons for and against them... Since then I've been lurking in the farming and argriculture subreddits looking for respondents for the research I'm doing about storage processes on larger sized farms with little success. I am working with a Danish company who wants to market a silo monitoring system and wondered if you might be willing to help with a short series of interview questions regarding such a topic. I would be willing to give you reddit gold for your trouble, but understand ifyou think this is weird or are uninterested. Let me know what you think

**re: Sorry to stalk you like this...**

from **[boyfly](http://www.reddit.com/user/boyfly%22%20%5Ct%20%22_blank)**sent 7 months ago

No problem. I am willing to help you out, but I may not be the best source. My Dad has a fairly large grain farm operation and I help him out, usually at harvest, but I don't farm full time. You may be able to get better feedback in places like [AgTalk](http://talk.newagtalk.com/category-view.asp) and [The Combine Forum](http://www.thecombineforum.com/).

**re: Sorry to stalk you like this...**

to **boyfly** sent 6 months ago

Thanks so much for your response! Anything you can add will help and your experience on a large grain farm is certainly relevant... I'm going to break this up into several mails though, so it's not a wall of text and so I can springboard off some of your responses... Maybe about three emails in all, and when we're all done I'll give your account gold. I hope it's cool, I've actually never bought it before so you'll have to let me know what it's all about...

Anyway, as I said I am working with a company that wants to sell its bin and silo monitoring technologies in the U.S. and we hoped to learn more about your experience with and impressions of this technology, the way it's used, and the best means for bringing it to market in the states.

What are you primarily growing or storing and in what ways and have you dealt with/experienced spoilage in the past?

What means are you currently using to monitor your stored product? If you are using monitoring technologies, which are the most well known manufacturers in this field?

Do any of them have a technology/usefulness that the others do not?

What are the most important issues that a monitoring system should be capable of detecting?

How important is bin and silo monitoring and how critical is this technology to achieving that goal of monitoring the stored product?

What (in your opinion) is the impression and general attitude among smaller scale farmers to this type of technology?

Are there any barriers to purchasing from a company that is based overseas (in this case Denmark) and if so, what might those be?

In the course of operating your farm do you/are you likely to rent equipment from a rental company?

If so what type of equipment and which rental company(ies)?

Do you think that this monitoring technology would make a viable rental prospect? Why or why not?

I think that's a good start and hope that you're not overwhelmed or put off by any of the questions. Please feel free to ask for some clarification on any of the issues raised, and I look forward to hearing from you and seeing what you have to say.

Thanks again

**re: Sorry to stalk you like this...**

**from [boyfly](http://www.reddit.com/user/boyfly%22%20%5Ct%20%22_blank) sent 6 months ago**

What are you primarily growing or storing and in what ways and have you dealt with/experienced spoilage in the past?

Corn and soybeans are stored; storage system consists of grain pit, grain leg, wet holding bin, DMC dryer, air system, storage bins, and storage bin fans. Spoilage typically happens when extreme weather happens or grain is not adequately prepared before being put into storage.

What means are you currently using to monitor your stored product? If you are using monitoring technologies, which are the most well known manufacturers in this field?

[Agridry Bullseye](http://www.agridryllc.com/products/bin-controller) is in use. A single sensor wire is installed inside each bin and a controller on the exterior of each bin is used to set the control parameters. The controller is able to switch on the bin fan to regulate temperature and humidity.

Do any of them have a technology/usefulness that the others do not?

Not familiar with other systems, but I have seen some advertised with a nice web based interface for remote control. That would be nice, if not essential, in the future.

What are the most important issues that a monitoring system should be capable of detecting?

Temp and humidity to estimate condition of grain.

How important is bin and silo monitoring and how critical is this technology to achieving that goal of monitoring the stored product?

As farm equipment becomes more and more automated, it takes less and less manpower to farm. To keep pace, bin monitoring needs to be as hands off as possible to help farmers manage their time wisely. The technology also allows for much more precise control as different parts of the bin can be monitored. The traditional look/feel/smell method of monitoring is not nearly as accurate.

What (in your opinion) is the impression and general attitude among smaller scale farmers to this type of technology?

The progressive ones are aware of the tech and waiting for the cost to come down on basic systems. There should be a high adoption rate by younger generations of farmers, regardless of the size.

Are there any barriers to purchasing from a company that is based overseas (in this case Denmark) and if so, what might those be?

Support. Locally trained support personnel must be accessible. This could be accomplished by selling the product through grain storage solution providers who will install and maintain the systems locally.

In the course of operating your farm do you/are you likely to rent equipment from a rental company?

Yes and yes

If so what type of equipment and which rental company(ies)?

Typically implements or equipment that are only needed for one or two projects.

Do you think that this monitoring technology would make a viable rental prospect? Why or why not?

As a supplement to permanent installation, yes. There are times when grain storage is in high demand for a short period of time or when a grain harvest is particularly susceptible to spoilage. These would be opportunities to rent out this equipment on a temporary basis, perhaps for a month or season. This should not be the main method of revenue, though. Permanent installations will typically be in much higher demand than rental systems.

Nederst på formularen

1. <http://blog.reddit.com/search/label/growing%20reddit%20traffic> [↑](#footnote-ref-1)
2. France, Germany, Norway, Poland, Spain, Sweden and United Kingdom (www.webstech.dk) [↑](#footnote-ref-2)
3. <http://moz.com/top500> [↑](#footnote-ref-3)
4. <http://pewinternet.org/Reports/2013/reddit.aspx> [↑](#footnote-ref-4)
5. blog.reddit.com/2012/08/potus-iama-stats.html [↑](#footnote-ref-5)
6. <http://www.reddit.com/r/farming/search?q=farming&sort=relevance&restrict_sr=on&t=all> [↑](#footnote-ref-6)
7. <http://www.reddit.com/r/Agriculture/search?q=agriculture&sort=relevance&restrict_sr=on&t=all> [↑](#footnote-ref-7)