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A Communication Formula: “A Recipe for Building Efficient Business Relationships”

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Abstract

Every entrepreneur seeks to set up a well-performing, profitable and successful business that is able to communicate with its varied target audiences. Companies in the Environmental sector are no different, however, what happens when the audiences are not only diverse but represent a demographic that is close-knitted, unfamiliar and stereotyped as hard to reach? How does this organization position itself for success while attempting to understand the variables with which it is presented? This paper explores the main factors involved in positioning PF Waste Management Solutions, a small enterprise offering an improved waste management solution via its Modular Mobile Bio-Digester, as a business leader in the Environmental Sector. The research was conducted amongst farmers and agricultural students and key stakeholders such as banks utilizing both quantitative and qualitative methods - surveys, questionnaires, interviews, and focus groups - in an effort to understand some of the communication issues being faced. The issues encountered were barriers to communication, stereotyping, understanding the target audiences, developing and effectively managing relationships and utilizing effective communication channels that are specific to their target audiences. Through this study the researchers were better able to understand the way farmers communicate and what key stakeholders expect from an entrepreneur. Our research provides a communication formula for building efficient business relationships.

Keywords: Entrepreneur; Stereotypes; hard-to-reach; Waste management; Farmer demographics; Communication Formula

Glossary

Bio digester an airtight chamber in which anaerobic digestion of manure, bio solids, food waste, other organic wastewater streams or a combination of these feed stocks occurs.

Communication channel refers either to a physical transmission medium such as a wire, or to a logical connection over a multiplexed medium such as a radio channel.

Communication plan sets out a clear framework for the communication activities and allocates roles, tasks and goals to individual members of the team.

Entrepreneurial characterized by the taking of financial risks in the hope of profit; enterprising

Qualitative research focuses on gathering of mainly verbal data rather than measurements. Gathered information is then analysed in an interpretative manner, subjective, impressionistic or even diagnostic.

Quantitative research the use of sampling techniques (such as consumer surveys) whose findings may be expressed numerically, and are amenable to mathematical manipulation enabling the researcher to estimate future events or quantities.

Relationship management can be between a business and its customers (customer relationship management) and between a business and other businesses (business relationship management).

Target audience a particular group of people, identified as the intended recipient of an advertisement or message. Also called target population.

Target market a particular group of consumers at which a product or service is aimed.

Stereotyping when you judge a group of people who are different from you based on your own and/or others opinions and/or encounters.

Waste management the collection and disposal of garbage, sewage, and other waste products. It encompasses management of all processes and resources for proper handling of waste materials, from maintenance of waste transport trucks and dumping facilities to compliance with health codes and environmental regulations.

Introduction

1.1 Background on Study

This research was undertaken upon request of PF Waste Management Solutions, an emerging environmentally based business seeking to launch a new product in the waste management sector. PF Waste Management Solutions is a waste management solution organization whose main aims are to provide healthier, environmentally safe solutions for persons in the agricultural industry. Their solutions also provide opportunities that could transform animal waste into monetary value and assist in creating a healthier environment for farming communities and their environs.

1.2 Rationale of Study

The company's concept of a mobile and modular bio-digester was adjudged the top scoring project by the Canadian Council for International Co-operation Adjudicators. It is basically a waste treatment plant on wheels which can transform animal and organic household waste, crop residues, industrial byproducts, even human excrement, into sustainable energy and organic fertilizer. The modular design of the bio-digester is said to make the system advantageous since the company can control each element and as a result it speeds up the processing stage and makes the instrument a lot more efficient than other designs. Whilst conducting this research it was observed by the researchers that the design of the model is self contained in twenty (20) to forty (40) feet containers and it allow the bio-digesters to be safely hoarded, plummeting land use and assisting in easy storage and transport, which is beneficial to its clients.

1.3 Theoretical Framework

Theory 1 – Social Penetration Theory

The Social Penetration theory was developed by Altman and Taylor (1973) “to explain the evolution of interpersonal relationships” (Baack, Fogliasso, Harris, 2000, P. 39). The theory states that as relationships develop, communication moves from relatively shallow, non-intimate levels to deeper, more personal ones. (Baack, et al., 2000, P. 40). This theory will seek to explain the relationship communicators have with their audiences whether they are selling a product, creating awareness or positioning their brand as a business leader. It will take into consideration

the various stages of penetration that the relationship can go through and the importance of understanding their demographic which in turn “enhances understanding of both intimacy and self disclosure” The theory is also “a viable candidate for analyzing how various ethical issues might affect individuals” giving organizations a better understanding of how they can overcome prejudice and mistrust to facilitate self-disclosure and eventual consumer buy-in (Baack, et al., P.42).

The theory also takes into consideration cost and reward factors that affect the levels of self-disclosure. It states that the more positive reinforcement a person receives as they communicate with others the more they will shed their layers, eventually revealing who they are at the core. The theory outlines five (5) stages that lead to intimacy resulting from self-disclosure which are Orientation Stage, Exploratory Affective Stage, Affective Stage, Stable Stage and Depenetration. (Griffin, 2003). Each of these stages leads to a deeper understanding of the individual as disclosure is reciprocated and rewarded.

Theory 2 – Diffusion of Innovations Theory

Diffusion of Innovations theory was developed by E.M. Rogers in 1962 and is a social sciences theory with origins in communication. The theory seeks to explain how, why and at what rate new ideas or products gain momentum and spread within cultures. This theory accepts the fact that we are creatures of habit and generally are not always open to change and will resist it for as long as possible unless we are convinced that it is for our well-being or will positively impact our lives. Diffusion of Innovation theory leads to an understanding of why major change cannot be accomplished in a brief period of time. It explores other means of communicating with your audience outside of the media and takes into consideration the various types of interpersonal communication that may be most effective in influencing behavioural change. (Kaminski, 2011)

The theory outlines the *The Diffusion Process* consumers go through in (5) stages which are *Awareness, interest, evaluation, trial and adoption* which illustrates our behaviour from the time we find out about the product to when we take action and purchase the product

Adoption or acceptance of an innovation is a process in which some people adopt the innovation more readily than others. It also takes into consideration that persons will go through the buy-in process differently. Audiences who adopt an innovation early differ characteristically from those who adopt an innovation later. When promoting an innovation to a target audience, we must first understand the characteristics of the target population that will help or hinder the adoption of the innovation then implement a strategy best suited to them. There are five (5) established adopter categories which are the *Innovators*, *Early Adopters*, *Early Majority*, *Late Majority* and *Laggards*. (Kaminski, 2011)

1.4 Significance of Study

The instrument also admits natural biological organisms to breakdown organic matter, such as animal waste, which can be potentially harmful or toxic if used in its raw form, into a treated, safe state. High quality organic fertilizer and biogas which is referred to as methane, can be converted into electricity to reduce farmers' costs or cheap cooking gas, are also byproducts of the biodigester. The group's ground breaking design also cleans the biogas by removing hydrogen sulfide, which is responsible for the foul smell in methane and also prevents harmful pathogens and bacteria from entering the environment. Another by product of the bio-digester is the water which emanates from the system. This water is explained by the trio of the company to meet international ambient water quality standards and is said that it can be reused or released into the environment. It was stated by Dr. Laban in an interview that the purpose of the bio-digester is basically to provide sustainable agriculture and to assist the farming industry to get away from old practices, hence making it more profitable and sustainable.

1.5 Aims of Study

This study explored the factors involved in positioning PF Waste Management Solutions as a market leader in Trinidad and Tobago. In observing the initial communication habits of the business, the observation was made that there existed a need to implement a new communication approach that would foster a greater business relationship between the company and their target market. The target market is the livestock farmers of Trinidad and Tobago. The researchers have thus executed a variety of research methods to assist PF Waste Management Solutions in assessing their target market's attitude towards the concept of waste management. This research objective will ideally assist PF Waste Management Solutions in devising an effective communication plan to market their product to their target market. This plan would peak the

interest of potential clientele and position the company when they are ready to launch their product. Working with the company, we observed that there was a need for more efficient communication strategies to allow the business to effectively communicate with their target market. This reconstruction we believe is necessary in achieving successful business relationships with potential clientele. The researchers has thus developed and undertaken a variety of research methods to gain an understanding of the concept of waste management, in an attempt to create an appropriate communication plan.

Whilst the researchers were conducting meetings and focus groups, they overcame a few major issues pertaining to communication with the target market and also communication amongst the professional representation that will be highlighted later on in the findings of this research. This research also highlights the concept of stereotyping which was observed when performing the research, especially relating to farmers. Key information regarding the farmers and their perspective about the bio-digester was also apparent in the research. Many of the farmers that were interviewed demonstrated their interpretation of the negative impact of the bio-digester. Also many farmers already had a waste management technique put in place to cleanse their farm/farms. Some of these apparent farmers were still willing to learn about the use of the bio-digester because they were interested in changing their current strategy since they also had bigger farms and were amazed at the new waste management technology. The researchers were able to prove the stereotypical view of farmers in our society wrong since we observed that farmers are extremely literate, visual learners and communicators.

Literature Review

2.1 Introduction

According to the Global Entrepreneurship Monitor 2014 Global Report, Trinidad and Tobago is among the innovation-driven economies with the highest Total early-stage Entrepreneurial Activity rates @ 14.6% “which represents individuals in the process of starting a venture and those running a new business less than 3 ½ years old.” Starting a business can seem exciting and ideal. Many entrepreneurs see this option as a way to be self-sufficient and independent, making their own decisions about working hours, prices, human resources and any other decisions previously out of their control, now becomes theirs to make without having to report to a higher authority. They believe that after expenses, anything extra is theirs to spend. (Hamilton, Connelly & Doster, P.109). The reality is that each of these decisions have consequences and require more thought and planning than expected.

(Barringer & Ireland, 2010) Planning pushes entrepreneurs to gather and analyse information, which enables entrepreneurs to quickly identify what they do not know, evaluate required tasks that can help solve problems and attain goals, identify risks and strategy, and project financial developments. (Delmar & Shane, 2003). (Castrogiovanni, 1996, believes that a new business should be planned prior to establishing a start-up (p. 801). Crafting a plan also helps people to communicate the purposes, objectives, and activities of the business, which are a prerequisite to achieving a successful venture. (Gartner & Liao, 2009). Regardless of the sector within which you operate, planning is a must particularly when attempting to communicate a new idea to a demographic who you may be unfamiliar with.

2.2 Barriers to Communication

Business communication is a special facet of human communication (Persing, 1981). In business organizations people working in coordination to produce, market goods and provide services for mutual profit are essentially goal-oriented and need to communicate effectively. Bobbye Persing, 1981 has defined business communication as the spiraling process of transaction, of meaning through symbolic action involving all elements associated with the sending and receiving written, oral and non verbal messages, internal and external to organizations of paid people working together to produce and market goods and services for profit. Business communication, as emphasized in this definition, is a spiraling process as

communication between sender and receiver does not start at the same level of ability, understanding, behaviour and psyche. External factors such as noise, time, and culture also have an impact on communication in the business world. Therefore communication takes a spiral shape in the process of being transmitted from the sender to the receiver (Porterfield (1980).

Business communication is goal-oriented and has a definite and practical purpose which is instrumental in initiating the process. This purpose is practical as it changes with time and needs. It is all pervasive and inevitable and is essential socially, psychologically, formally or informally within and without the organization. Therefore it is believed that business communication is the life-blood of the organization (Koehler & Taugher, 1982). It is explained also by Seigle 1982 that business communication is dynamic. The methods, means and type of communication keep varying according to the changing situations in business. Communication is continuous, though it is dynamic yet it does not end (Koehler & Taugher, 1982). Once a predetermined objective is achieved communication reaches another level to achieve another objective. Business communication is also time-bound since in a business organization varies with time. Every objective, assignment or project is to be achieved in a stipulated time period (Koehler & Taugher, 1982). It is also based on internal and external organizational activities. In an organization, routine work is carried out through internal and external activities. Internal organizational activities are carried out within the confines of the organization like training,

2.3 Stereotyping your Target Audience

The importance of understanding a target audience is vital in order to achieve high-level consumer engagement, successful marketing and satisfied clients. However at times stereotyping the target audience can hamper this. A stereotype is a generalization about a group of people, in which certain traits cling to all members, regardless of actual individual variation (Akert, Aronson, & Wilson, 2010). Stereotyping is generally assuming that based on a person's experiences and interactions with one person or a small group, all others sharing similar traits are virtually identical in thoughts, values and behaviours. Usually stereotyping conveys negative subtext, however it is vital to give individuals the opportunity to show their personal qualities and unique identities.

The general stereotype of farmers is poor stewardship. Living in a society that favours knowledge produced by educational institutions, rather than knowledge passed down from generation-to-generation on the farm. Not discrediting or undervaluing academic education,

however, there is no need to discard other types of knowledge as less valid. Already Trinidad and Tobago suffers from a lack of livestock farmers willing to step up and take over the family farm. So it is imperative to value farming knowledge, as young people will continue to go to the city after college rather than back to the farm. This stereotype could not be more inaccurate, when in fact, in order to farm; farmers must be able to know soil science, microbiology, ecology, chemistry, business and so much more. Livestock farmers also need hard skills, such as carpentry, forestry, and engineering. For instance numerous farmers from Wallerfield created and were effectively using their own system of waste management on their farms.

Another prominent stereotype that revolves around farmers is their reputation for being stubborn. That they are unwilling to change something just because an agronomist or company tells them that, that this new way is superior. They usually follow the saying “If it ain’t broke don’t fix it right?” Meaning that if their current system of waste management is effectively functional why would they want to change that to another system. This was the case with some of the livestock farmers in Trinidad and Tobago. This is where PF Waste Management Solutions fits into diverse world of livestock farming, where they are working to help livestock farmers to improve the way farmers get rid of their animal waste. PF Waste Management Solutions felt that this is important as people are interested to what happens on farms, and nobody better to share this information with than farmers themselves, as they are experts of what happens on their farms.

2.4 Importance of Relationship Management

At the core of any successful business venture is the existence of healthy business relationships. The implementation of Relationship Management to facilitate healthy business relationships is critical to enhancing the environment of the workplace. This is especially relevant in the case of entrepreneurial business ventures, as members work more intimately in such a small setting. Relationship management positively benefits the relationship between businesses and government, work relationships within the company, as well as the business’ relationship with clientele and by extension the public. “In this evolving environment it is clear that relationships are multi-dimensional and that success is no longer dependent solely on out-facing segments of the business process but a key differentiator that should be integrated across the business.” (Hawkins, 2011)

2.3.1 importance of relationship management with government

In the introduction of a new business idea to a region, there is a legal and ethical responsibility of business owners to liaise with the relevant government institutions to ensure that the business' operations abide with the laws of the land. Building and sustaining organizations depends on the availability of environmental resources, and legitimation signifies the process by which social acceptance (or legitimacy) facilitates organizations' task of accessing these resources. (Stinchcombe, 1965; Weber, 1968). A business' attempt to familiarize themselves with the laws associated with their operations will allow them to be less likely to be penalized for practices. Abiding by the legal obligations imposed by the government by extension improves relationship management with clientele, as clients are more inclined to invest in a project that is backed by the government as it reflects transparency.

2.3.2 importance of relationship management within the workplace

Relationship Management is critical in creating a business environment that is conducive to productivity. The quality of work produced in any business setting is inherently affected by the relationships amongst company members. For this reason the main importance of relationship management in any business is its ability to contribute to a conflict-free environment, creating the ideal setting for productivity to occur. Studies indicate that a massive 65% of performance problems result from strained relationships between staff (Dana, 1990.) This performance problem can be manifested in numerous ways that are harmful to business productivity. "Hidden costs of conflict range from the waste of employees' time and energy in being preoccupied by the issues, days off work for stress, lowered motivation and morale and poorer quality of decisions and work" (Rafferty, 2007)

Relationship management can incorporate the application of the Social Penetration theory to promote work relationships. The psychology based theory, developed by Irwin Altman and Dalmus Taylor can assess the development of relationships in the workplace, observing patterns and situations that ignite intimacy amongst members. It is important in relationship management that businesses do not ignore this seemingly trivial aspect of business operation. These relations are an important quality of formal organizations, as previous research has shown that employees tend to be more cooperative and productive when their formal contacts are accompanied by informal ties (Mehra et al., 2001, Oh et al., 2004, Sparrowe et al., 2001 and Sparrowe and Liden, 1997). Dunbar supports this view in his analysis of work environment relationships, identifying

informal workplace gossip as an instrument to reinforce an existing friendship relation between sender and receiver (Dunbar, 1996)

2.3.3 Importance Of Relationship Management With Clientele

Relationship building and commitment with clientele is the very essence of successful business operations. A business will deliberately collapse if it is unable to appeal to their target audience. For this purpose entrepreneurs must pay extra attention to this aspect of relationship management when attempting to successfully venture into the world of business. One of the main ways to build a relationship with clientele is the personalization of goods or services. This caters to the customer's natural need to feel important, creating a bond beyond the item or service he is paying for. Personalized services which make customers feel that service employees are polite, friendly and exhibit personal warmth, and that customers are unique and valued, are essential in building good customer relationships. (Huang, Huey-Pyng Shyub, 2009)

2.5 Understanding your Target Audience

“A target market is a fairly homogeneous (similar) group of customers to whom a company wishes to appeal (Perreault, Cannon & McCarthy, 2014, P. 33).” The basic reason to focus on some specific target customers is so that you can develop a marketing mix that satisfies those customer's specific needs better than they are satisfied by some other firm. It is important to understand your target market because it aids in mapping that connection between what the company has to offer and the needs of the target market, thus providing a solution to their needs.

An entrepreneurial context is different however from an established corporation. For entrepreneurs, a key concept is finding a source of market pain and finding a unique way to alleviate that pain. Understanding your target market is critical as it supplies the entrepreneur's creation of a value proposition. With your value proposition you recognize the customer's problem, create the product or service that addresses the problem, and communicates its value to the customer (Frederick G. Crane, 2010, P. 92).

The bio digester is a form of technology and looking at it from this perspective, (CG Ryan, 1985, P. 54) concludes that the purchase of technology depends on the personal contributions of the staff involved. One of the most significant findings of this study is that it is the purchaser that takes the initiative. In over two thirds of transactions reported, the initiative

was taken by the buying company. The initial purchase contact mainly occurred at trade exhibitions, through trade association meetings and technological conferences.

The target market identified by the client is pig farmers on a national level. The majority of pig farmers in Trinidad and Tobago can be identified as members of the The Pork Producers Association of Trinidad and Tobago (PPATT). The pork industry is the second largest producer of livestock products in the country and the (PPATT) falls under the umbrella of the Livestock and Livestock Products Board (LLPB). A study conducted by the LLPB identified that the industry has been facing increasing competition from imported pork products and has been seeking to improve its competitiveness. One important component of its strategy is to address the impact the industry has on the environment. The environmental effects of pig manure storage systems and application methods are a concern, particularly with respect to surface water and groundwater quality and to air quality as affected by odours and gaseous emissions from large-scale pig production operations. A rapid assessment of pig industry in Trinidad and Tobago identified the most immediate environmental challenge to the industry lies in the weakness of the waste management systems. In order to be more competitive it is necessary for the industry to commit to a strategy for becoming sustainably green and addressing the growing environmental concern of the industry and its impacts. That need for supporting the policy guidelines of the Ministry of the Environment and Water Resources and the regulatory requirements of the Environmental Management Authority coupled with the need to become more competitive and sustainably green outlines an environmentally conscious appeal of the target market.

To further support the existence of that environmental appeal among the target market, an article published on June 2013 in national newspaper, the Trinidad Express, “Pleading for Government Help” The EMA intervened in the poor waste management of Erin Farms and gave a deadline of June 16, 2014 to improve its waste disposal processes. Based on the article and the LLPB’s proposal for developing a solution to sustainably develop the pig industry waste it can be identified that a potential value proposition of our client to the pig industry is that environmental appeal and solution to the need for proper waste management.

2.6 Communication Channels: Specific and Targeted

In today's world, communicators are faced with varied options when developing a campaign to share information about a product or service. With new age technology and up-to-the-minute communication, communicators now have a choice between Traditional means of communication vs New Media options vs Interpersonal Communication. Research shows that information is now gathered using a combination of 1 or more communication channels inclusive of new media (Danaher, Peter, Rossiter, John, 2011). In deciding which channels to utilize, communicators must explore which channel consumers prefer and which would disseminate the information effectively and successfully so that the organization's objectives are met while prompting consumer buy-in of the product or service (Danaher, et al., 2011).

According to Kaminski, 2011, Communication channels "refers to the rate and degree that people talk about and spread the news about the innovations" (P. 5). This can be interpreted as the utilization of various mediums by both the sender and the receiver sharing the message within their networks. In the Diffusion of Innovations Theory, Rogers (1962) identified two (2) main communication channels. Firstly, Mass Media Channels which are "effective in creating knowledge about the innovation" and Secondly, Interpersonal Channels which represents person to person communication and is "very effective in changing people's attitudes about the innovation which ultimately influences their decision to accept or reject the innovation" (Kaminski, 2011, P.5). Traditional forms of media such as television, radio and press along with new media such as social networking sites and the internet fall under mass media channels while Interpersonal communication includes any face-to-face communication such as presentations, training programs, seminars, expositions and fairs.

Some recent research suggests that the expansion of new media and its increased popularity will eventually cause the demise in traditional and interpersonal channels of communication. It is believed that a decline can already be seen in the popularity of television advertising and direct mailing due to the fact that consumers are more likely to purchase a service or product if they are able to engage with the organization and its offering (Danaher, et al., 2011). Additionally, Danaher, et al., 2011, further suggest that engagement is also preferred over peer interaction such as having a friend convince them of the benefits of the product. This is in contrast to the peer networks concept noted in the Diffusion of Innovation theory. The Peer

Networks concept can be defined as “the critical mass achieved through the influence of innovators and early adopters who serve as opinion leaders that spark the initial “take off” point in the innovation adoption process (Kaminski, 2011, P.4). These persons are considered opinion leaders who contribute integrally as valuable influences for change through “peer to peer communication, role modeling, and networking” (Kaminski et al, 2011, P.4). This concept is well suited for testing and evaluating innovations within organizations and communities.

While little research has been conducted on the communication preferences of farmers in Trinidad and Tobago, there has been some research exploring the way farmers communicate and the channels which they prefer. As mentioned previously, farmers have generally been stereotyped as “Hard-to-Reach” (Jansen, et al., 2010, P. 1) or according to Beckford, 2002, farmers display apathy and resistance to change and are reluctant to accept innovations (p.1).” E.M Rogers’ (1962), Diffusion of Innovations Theory states that people are habit forming individuals therefore they don’t always accept change and will resist it for as long as possible unless they are convinced that the product will positively enhance their daily lives therefore being motivated to change through adoption of the innovation. (Kaminski et al, 2011.

One such research was conducted in the Netherlands amongst livestock farmers who were stereotyped as hard to reach. Based on the findings, farmers were grouped into four categories as they preferred different channels of communication due to the way they gathered and utilized information. One such category was the proactive farmers who were considered “outward oriented, well informed and interested in all kinds of new developments (Jansen, et al. 2010, P. 1300).” These farmers were open to information and welcomed online interaction, peer interaction and any information provided by outside sources. Another category was the do it yourself farmers who “were active and well informed but had a critical attitude toward external information. They relied more on their own knowledge and experiences than on information from others.” (Jansen, et al, 2010, P. 1301).

The third category were the called the wait and see farmers who were “open to advice from others, but rarely acted on their own initiative to search for information and to change the management on the farm.” (Jansen, et al, 2010, P. 1301). These farmers appreciated the availability of farm magazines. The fourth category involved farmers classified as the reclusive

traditionalists who were “very inward oriented. They had few contacts with farmers and did not feel the need to compare their farm with others.” (Jansen, et al, 2010, P. 1302). These farmers also preferred receiving information through farm magazines.

This study clearly documents the fact that while farmers are grouped under one big demographic, like many persons, they also have preferences in terms of communication channels which ranged from peer interaction, new media and traditional communication. They have varied perceptions and so are motivated differently and by different mediums. The research conducted by Jansen et al, 2010 suggests that any communication plan with farmers as the target audience “aim at different types of farmers by segmentation and customization of the type and content of the message to the various farmers’ perceptions, such as their goals, attitudes and motivations. (P. 1303)” The study further confirmed that research shows that “tailored communication is proven to be effective in many behavior change interventions. (Jansen, et al., P. 1303). This therefore means that any communication plan being disseminated should always be specific, targeted and personalized to your target audience in an effort to ensure that the message is well received and the consumers are motivated to adopt the innovation.

2.7 Conclusion

This study clearly documents the fact that while farmers are grouped under one big demographic, like many persons, they also have preferences in terms of communication channels which ranged from peer interaction, new media and traditional communication. They have varied perceptions and so are motivated differently and by different mediums. The research conducted by Jansen et al, 2010 suggests that any communication plan with farmers as the target audience “aim at different types of farmers by segmentation and customization of the type and content of the message to the various farmers’ perceptions, such as their goals, attitudes and motivations. (P. 1303)” The study further confirmed that research shows that “tailored communication is proven to be effective in many behaviour change interventions. (Jansen, et al., P. 1303).

Based on the research that has been conducted regarding communicating with your demographic and most recently, communicating with farmers as a demographic, it is imperative that we understand and be prepared to encounter barriers to communication while also seeking ways to counter them. In doing this, we are also counteracting stereotypes thereby taking the

time understand the needs, wants and preferences of our key audiences. As can be seen, the Social penetration theory provides a framework for these to be accomplished as it stresses the importance of developing trust through credibility and open disclosure.

Additionally, research further shows that we must conscientiously manage our relationships internally and externally in an effort to successfully penetrate the markets within which these organizations operate. The research also showed that each of these steps are linked and simplifies the process of tailoring the message and selecting the channels of communication to be used. With farmers specifically, the research clearly outlines the importance of each of these stages. The myth of hard to reach farmers can be debunked simply by understanding the barriers present in communicating with them along with the need to understand their limitations and preferences. These studies also outlined the need to develop relationships with these clients in an effort to earn their trust and eventual buy-in. When we understand that, according to the Diffusion of Innovations theory farmers adopt ideas differently and are at varying stages of the adoption process, then we can appreciate the importance of tailoring the plan to offer a specific strategy that utilizes target channels of communication thereby creating a very personalized plan that creates a greater opportunity for goals and objectives to be met. This therefore is the communication formula. The recipe for building efficient business relationships.

Methodology

This chapter of the project explains all of the methods and procedures used to efficiently gather and appropriately interpret the data from the relevant sources and develop rational conclusions based on these findings.

3.1 Research Method

This research employed a combination of both qualitative and quantitative research methods. *Qualitative research* is defined as research that derives data from observation, interviews, or verbal interactions and focuses on the meanings and interpretations of the participants. (Holloway and Wheeler, 1995) It is investigative research, characterized by its aims, which relate to understanding some aspect of social life and its methods generates words, rather than numbers as data for final analysis. It is also called ethno methodology or field research.

Whereas *Quantitative research* is used to measure the problem as means of generating numerical data or data that can be converted into statistics. It is used to quantify attitudes, opinions, behaviors, and other defined variables. Quantitative data collection methods are much more structured than Qualitative data collection methods. Quantitative data collection methods include various forms of surveys – online surveys, paper surveys, telephone surveys, face-to-face interviews, telephone interviews, online polls, and systematic observations.

3.2 Instrument

Measurement tools are instruments used by researchers and practitioners to aid in the assessment or evaluation of subjects, clients or patients. The instruments are used to measure or collect data on a variety of variables ranging from physical functioning to psychosocial wellbeing. Types of measurement tools include scales, indexes, surveys, interviews, and informal observation. "Careful planning for data collection can help with setting realistic goals. Data collection instrumentation, such as surveys or interview guides, must be identified and described. Using previously validated collection instruments can save time and increase the study's credibility. Once the data collection procedure has been determined, a time line for completion should be established." (Pierce, 2009, p. 159).

In conducting this research participants were used in focus groups, on the phone questionnaires, as well as distributed questionnaires. The surveys in the form of questionnaires were distributed to Agricultural students of the University of the West Indies, to quantify their

interest and knowledge on waste management and discover trends in thought and opinions as it pertains to environment. All participants were required to complete a questionnaire based on their knowledge and interest for waste management. Some of these issues will include: impact of waste from farms on the environment, current systems waste management systems used in Trinidad and Tobago and courses offered in waste management at the university.

Furthermore, the researchers arranged one focus group session with Wallerfield farmers. The same issues raised in the questionnaires were addressed in the focus group. With the focus group the researchers were able to interact with the participants, pose follow-up questions and the results was easier to comprehend than complicated statistical data. Also the researcher was able to get information from non-verbal responses, such as facial expressions and body language, and this information was provided more quickly than people being interviewed separately. Focus groups allows for easier reflection on collaborative experiences (Lunt and Livingstone, 1996; Bruseberg and McDonagh-Philp, 2002)

Lastly on the phone questionnaires were conducted with farmers of the Pork Farmers Association of Trinidad and Tobago. It was designed to elicit higher response rates and give the interviewer/researcher the opportunity to control the order in which the questions were asked. This specifically creates a confidential environment where the participant felt more comfortable answering questions he/ she may not otherwise feel comfortable responding to in a group setting.

3.3 Sampling Framework

The questionnaires for the study were designed by the researcher and upon the completion of pretesting, the necessary adjustments were made and the final questionnaire was finalized. The questionnaire was then distributed to the Agricultural students of the University of the West Indies.

In this regard, the researchers collected data from both male and female Agricultural students of the University of the West Indies, farmers from Wallerfield Framers Association and the Pork Farmers Association of Trinidad and Tobago. This helped to make the data collected more reliable and accurate as these targeted groups would potentially be interested in the *product.

A sample of fifteen (15) second and third year Agricultural students were selected from the University of the West Indies, the researchers issued a random sampling selection technique in selecting sample size.

Then a sample of twenty three (23) farmers were randomly selected from the Pork Farmers Association of Trinidad and Tobago. Random selection is the best selection method to use in order to reduce biases in the study and to ensure it collects the most accurate and reliable data that reflects the population.

Lastly seven (7) members of the Wallerfield Farmers Association were chosen for a focus group.

3.4 Material Distribution

Interviewing, focus groups and questionnaires are often recommended as appropriate methods of data collection for academic research. With fast changing technologies and related human interaction issues, there is an increased need for timely evaluation of systems with distributed users in varying contexts (Pace, 2004). This has led to the increased use of questionnaires, in-depth interviews and focus groups in commercial usability and academic research contexts.

This focus group was conducted by the researchers at the Wallerfield Community Centre. The questionnaires were distributed to a sample of students during university hours and was collected within 30 minutes of distribution. Furthermore all questionnaires were distributed by the researchers to ensure confidentiality of the students' responses. The on the phone questionnaires were conducted during a one week period by the researchers.

3.5 Data Analysis

Once conducting research, the data must then be analyzed to prove the research conclusion being sought and this "should be done using the most straightforward methods of data analysis"(Chambliss, Schutt, 2012, P. 154).. The collected data was analyzed in order to make the evaluation process easier. In this regard, simple data analysis tools were used. In analyzing the quantitative data, we utilized graphs in the form of pie charts to determine the response of participants. We also documented the qualitative data collected examining the relationships arising to show how one related to the other

3.6 Limitations

Limitations are influences that the researcher was not able to control. They are usually shortcomings, conditions or influences that cannot be controlled by the researcher that place

restrictions on your methodology and conclusions. All research suffers from limitations, in this research the findings was more difficult and time consuming to characterize in a visual way.

3.7 Ethical Considerations

The Belmont Report (1974) summarizes three basic ethical principles relevant to research involving human subjects - respect for persons, beneficence and justice. The individuals were treated as autonomous agents, where the researchers ensured that the subject received a full disclosure of the nature of the study, the risks, benefits and alternatives, with an extended opportunity to ask questions. In terms of beneficence researchers maximized possible benefits and minimize possible harms, where the investigator gave forethought to the maximization of benefits and the reduction of risk that might occur from the research. Also in terms of justice; occurs when a benefit to which a person is entitled is denied without good reason. In conducting the research there was fairness in distribution and unbiased selection of participants.

Findings, Analysis & Discussion

In an attempt to identify the factors necessary to position P.F Waste Management Solutions as a market leader in the launching of their product, the Synergy Consultants group of researchers conducted various research methods with the company's target audience in an attempt to discover their interests thus revealing how the business can successfully facilitate their needs.

To achieve this objective a sample of fifteen (15) second and third year Agricultural students were selected from the University of the West Indies. A second questionnaire was distributed to a sample of twenty three (23) farmers were randomly selected from the Pork Farmers Association of Trinidad and Tobago. Lastly seven (7) members of the Wallerfield Farmers Association were chosen for a focus group.

Reference will be made to the following research questions to itemize data findings and analysis:

Main Research Question:

What are some of the factors involved in positioning PF Waste Management Solutions as a Business Leader in the Environmental Sector as it pertains to Waste Management?

Sub-Research Questions:

How can the agricultural sector of Trinidad and Tobago improve communication with livestock farmers?

What communication strategies can be employed to better communicate emerging waste management information/technology to livestock farmers in Trinidad and Tobago

What communication tools should an entrepreneur utilize to effectively communicate with their target market?

Questionnaire #1

Below are the general findings of the questionnaire conducted with the farmers.

Questionnaires distributed to the farmers revealed the demographic is predominantly male as a staggering 95% of the participants were male. . 8.7% of famers surveyed actually attended tertiary level institutions while the remaining 91.3 percent of farmers indicated their highest levels of education to be primary and secondary level. 73.9% of farmers

surveyed have been practicing for over ten years. 91.3% have indicated they resorted to the field of agriculture because of family business and a personal interest in farming.

Age of farmers will affect the way that they should be communicated to. The majority of the farmers are between the ages 25-35. However that is not correlated to their use of the internet as a form of effective communication. The farmers indicated that their preferred form of communication is face to face conversations and communication via the livestock board. This supports the findings of the secondary research that trade shows and exhibitions are a better alternative for selling this type of product. They did however indicate that they utilize the internet for research on any farming practices and other relevant information that they seek. Through YouTube, farmers at the focus group identified that there were several videos for building “do it yourself” bio digesters. The seller would therefore need to differentiate their product from these homemade digesters and justify its purchase.

As it relates to waste management and waste management technology, 78.2% of farmers surveyed understand the negative impact of waste on the environment. . 65.2% of farmers surveyed have an existing waste management system in place on their farm. While 60% of the farmers viewed their current waste management practice as decent, they did state that they would be interested in a new and more efficient waste management system. The most popular system identified was the lagoon system, which 47.8% of the farmers indicated they use. The remaining 34.8% of farmers who do not have a waste management system in place indicated that their waste remains on the land or is left to flow into nearby drains/ponds.

The research findings also suggest that farmers with bigger farms and livestock farmers/integrated farmers seem to have a greater interest in waste management technology.

Questionnaire #2

The general findings of the questionnaire conducted with agricultural students of The University of the West Indies, who have indicated an interest in a future career in farming revealed that students also held a positive view of the bio digester waste management technology. Though the students stated that there was no compulsory course which taught waste management, they indicated their knowledge stemmed from informal conversations and related topics.

Of the fifteen students surveyed, thirteen have worked on a farm. From these experiences, eight recalled that lagoon systems were used. This supports the data in questionnaire 1, in which a majority of farmers indicated the lagoon system as their present form of waste management. \

93% of the students also indicated that they would indeed recommend a bio digester waste management system to a friend.

Focus Groups

In an attempt to benefit from human interaction, the researchers conducted an intimate focus group with seven farmers. This allowed the researchers the opportunity to interact and gain a better understanding of the company's target market.

Although there are farmers that practice waste management, there are a number of farmers that do not. This group is very important to our study as it forms a key segment of farmers who may be interested in the product. Farmers that allow their waste to run off into ponds and rivers are another important group to target, the negative impact of that practice needs to be communicated to them.

The majority of farmers stated that they have over 10 years' experience. Therefore the seller needs to be very informed on the waste management practices and the solution they seek to provide to the waste management needs of the group. According to secondary research, the buyer tends to approach the seller in such instances of expensive technological purchases. A major factor that influences the consideration of purchasing a bio digester is cost, this cost must be justified by an unbeatable value proposition coupled with the 10 years plus experience of the farmers.

Although EMA is enforcing its water pollution and waste management policies as identified in the secondary research, according to the focus group only one farmer indicated that the EMA was a factor that would influence the decision for the implementation of a waste management system. This indicates a degree of disregard for the policies of the EMA which would need to be addressed.

3.1 Debunking the stereotype

In an attempt to answer the question of how the agricultural sector of Trinidad and Tobago can improve communication with livestock farmers, the researchers sought to firstly address the issue of stereotyping. For this purpose questionnaires were distributed to the farmers to gauge their understanding of the new waste management technology. The findings suggest that the stereotype is inaccurate, as the majority of farmers indicated a versed understanding of the waste management concept. Farmers already were aware of the benefit of the bio-digester system before our interaction with them. Data received from the findings suggest that there is a significant consensus among farmers that waste management is a benefit to their farming activities. Additionally, 78.2% of farmers surveyed also understand the negative impact of waste on the environment. This information was also echoed in our focus group, as the interaction with the farmers was extremely intellectual. It should be noted however, that the possible source of the stereotype is the fact that a majority of the farmers surveyed had no formal education beyond the secondary level. This however has proven to be a poor determining factor of intelligence, as this fact did not hinder the practical knowledge possessed by the farmers.

3.2 Communication Barriers: Bridging the Gap between Business and Target Market

The fueling factor of successful relationships is good communication. This comprises of meeting the needs expressed by the target market. Through the data collected, the researchers have derived several pointers that the business needs to consider in efficiently communicating emerging waste management information/technology to livestock farmers in Trinidad and Tobago.

3.3 Views on waste management

While the farmers have indicated their view of waste management technology as a benefit, the interaction with farmers in the focus group revealed that this view stems from farmer's main conceptualization of waste management benefits as environmentally based. No financial value benefit was expressed by participating members.

Interest vs. Cost

While research predominantly points to farmer's existing interest in waste management and waste management technology, there must be an analysis of the relationship between interest and cost. The most significant factor affecting farmers' decision to purchase a waste management system is cost

The researchers derive that this price concern is directly linked to findings in Figure 1, which demonstrate that farmer's have no financial incentive to invest in a bio-digester system.

The researchers derive that in order to combat this concern with cost; the communication plan must highlight specific financial benefits to the farmers. This will create incentive by placing greater value on the product, making farmers more likely to consider the investment.

Existing Communication Practices

As illustrated in Figure 3 of Findings, conversation with other farmers is the highest method of information gathering. This suggests that farmers communicate efficiently in an informal setting. The Livestock Board is listed as the second most popular method of communication used by farmers. (Figure 3) Therefore the communication plan should be heavily focused in face to face communication that is easily transferable and close partnership with the livestock board.

Limitations Of Study

One of the major limitations of the study was the scarcity of existing information on the subject, particularly in terms of specificity to Trinidad and Tobago and by extension the Caribbean.

In terms of gathering information from the PF team, the researchers experienced some level of trouble in gathering information on the company as well as the product. This difficulty stemmed from the high confidentiality surrounding the design of the bio digester, as the team indicated several occasions their desire to reserve information for such reasons. This limitation was also paired with the unavailability to physically meet with the team on many occasions as the owners were conducting other business outside of the country. For this reason email was a crucial means of communication, though in some situations it proved to be a

faulty communication channel for delivering and receiving messages. Conflicting information being transferred made it somewhat difficult to gather absolute facts as the PF team are still in the planning stages and have numerous loose ends that were not initially solved.

Recommendations

Coming out of the research data and analysis conducted, Synergy Consultants has combined a set of initiatives that the PF team can implement aid a successful launch when the team decides to actively begin their business operation.

Firstly it is recommended that the team make a concerted effort to highlight the value of the product to farmers as opposed to cost. The emphasis of product value combined with the existing interest can combat the target market's initial concern of the cost of the bio digester.

In an effort to gain the trust of the farmers, promote mutual communication and achieve the successful implementation of the product, it is recommended that the PF team executes a very direct communication plan that incorporates below the line type of advertising.

In terms of fulfilling positive relationship management with government entities and other businesses in an aim to attract and secure investors and financiers, the PF team must complete a detailed Business Plan that will ensure buy-in from key stakeholders leading to business continuity. This is crucial to the future on longevity of the business, as a business plan document is one of the most sought out documents by potential investors.

The diffusion process is a great tool for managing change once the PF team understands that persons will adopt innovation differently at their own pace and therefore understanding and applying the type of communication best suited to each category is necessary.

Based on the feedback evaluation of the target market's response to communication channels and methods, Synergy Consultants proposes that the team incorporates the following in their attempt to efficiently relate ideas to their target market.

- Face-to-Face Seminars
- Hands-on demonstrations
- Conducting Focus Groups
- A brochure that is visual, simple to read and straight to the point
- Frequent visits with the farmers to build the relationship and trust

- Strengthen their relationship with organizations such as the Livestock Board and Agricultural Development bank

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Appendix A

FOCUS GROUP CONSENT FORM: Adult Participation in a Focus Group

THE UNIVERSITY OF THE WEST INDIES

Department of Literary, Cultural and Communication Studies

Research Study:

What is the Research?

- The purpose of this study is to evaluate the attitudes toward waste management by members involved in the agricultural industry.

Why have I been asked to take part?

- You are a practicing farmer in Trinidad and Tobago.
- We would like you to take part in a discussion in an attempt to generate feedback on your existing waste management practices as well as to propose other waste management options.

Voluntary Participation

- This discussion is *voluntary*—you do not have to take part if you do not want to.
- The group of researchers will be readily available to explain any concept that you may need further clarified during the course of the research
- You may leave the group at any time for any reason.

Risks

- We foresee no risks involved in taking part in this study.

Privacy

- Your privacy will be protected.
- Your name will not be used in any report that is published.
- The discussion will be kept *strictly confidential*.

If the tape recorder is used, it will only be used to remind the researchers what was said. All research data will be stored in a locked file cabinet and the tapes will be destroyed the talk has been studied.

Audiotape Permission

I have been told that the discussion will be tape recorded only if all participants agree. I have been told that I can state that I don't want the discussion to be taped and it will not be. I can ask that the tape be turned off at any time.

I agree to be audio taped ____ Yes ____ No

Please write your name below and check yes or no. If you want to take part, sign your name at the bottom.

NAME

____ Yes, I would like to take part in the focus group.

____ No, I would not like to participate in the focus group.

SIGNATURE

DATE

Appendix B

Student Questionnaire #1

1. What is your age group?

☐ Less than 21 years old ☐ 25-35 years old ☐ 36+ years old

2. Sex

☐ Female ☐ Male

3. What sparked your involvement/interest in agriculture?

☐ Family business ☐ Formal training ☐ Personal interest ☐ Other

4a. What type of farming do you currently practice (if any) or would you be interested in?

☐ Crop farming ☐ Livestock farming ☐ Both/integrated farming ☐ Not interested

4b. What type of crops/livestock do you rear (if any) or would you be interested in?

.....

5. How do you view waste management?

☐ A problem ☐ Benefit ☐ Cost

5b. Please explain your view.

.....

6. What do you understand about the impact of waste from farms on the environment?

.....

7a. If any currently/have ever worked on a farm, is/was a waste management system in place?

☐ Yes ☐ No ☐ I have no practical farming experience

7b. If yes, what kind of waste management system do/did the farm have in place?

☐ Lagoon System ☐ Burn ☐ Bury ☐ Compost ☐ Other

7c. If no, what do they currently do with their waste?

.....

8. Do you think their system is efficient and environmentally friendly?

☐ Yes ☐ No

9. Would you recommend an environmentally friendly waste management to a friend/farmer?

☐ Yes ☐ No

10. What, in your opinion would most likely influence a farmer's decision to invest in a waste management product?

☐ Cost ☐ Knowledge/understanding ☐ EMA ☐ See no value

11a. Is there any course regarding waste management included in your syllabus here at The University of the West Indies?

☐ Yes ☐ No

11b. If yes, what is the name of this course?

.....

11c. If no, what has shaped your opinion of waste management?

.....

Appendix C

Farmer Questionnaire #1

4. What is your age group?

☐ Less than 25 years old

☐ 25-35 years old

☐ 36+ years old

5. Sex

☐ Female

☐ Male

6. Highest level of education

☐ Primary

☐ Secondary

☐ Vocational

☐ Tertiary

7. How long have you been a farmer?

☐ 1-5 years

☐ 6-10 years

☐ Over 10 years

8. How big is your farm?

☐ 1-2 Acres

☐ 3-4 Acres

☐ 4+ Acres

9. How did you get into agriculture?

☐ Family business

☐ Formal training

☐ Personal interest

☐ Other.....

10. What type of farming do you practice?

☐ Crop farming

☐ Livestock farming

☐ Both/integrated farming

7b. What type of crops/livestock do you rear?

.....

11. How many heads of livestock do you farm?

_ 0-25

_25-75

_75-150

_ 150-300

_Over 300

12. How do you view waste or waste products?

_ a problem

_ a benefit

— a cost

13. Do you know or understand the impact that waste from farms can have on the environment?

 Yes

No

14. Do you currently have a waste management system in place?

 Yes

 No

15. If no, what do you currently do with your waste?

16. If yes, what kind of waste management system do you have in place?

_ Lagoon System

_Burn

_Bury

_ Compost heap

Other.....

17. Do you think your current system is efficient and environmentally friendly?

 Yes

No

18. Would you be interested in a more efficient and environmentally friendly waste management system?

 Yes

☐ No

19. What would mostly influence your decision to get one?

Cost

_Knowledge/understanding

EMA

See no value

Appendix D

Farmer Questionnaire #2

1. Which of the following waste management systems would you prefer?
 - ☐ One (1) that costs more but provides you with returns/income?
 - ☐ One (1) that costs less but provides no revenue source?

2. Do you see the value in this bio digester product?
 - ☐ Yes
 - ☐ No

3. Would you prefer to lease or buy this bio digester?
 - ☐ Lease
 - ☐ Buy

4. How would you like to learn about this product?
 - ☐ From A Video
 - ☐ Through A Brochure with step by step instructions
 - ☐ Face-to-face training from a company representative
 - ☐ Talking to another farmer
 - ☐ Other.....

Appendix E
Projected Budget

PROJECTED BUDGET FOR WASTE MANAGEMENT THESIS

ITEM DESCRIPTION	QUANTITY	UNIT COST	COST	TOTAL
		\$	\$	\$
<u>GRAPHIC DESIGN</u>				
Logo (Coloured)	1	\$500.00	\$500.00	
Brochure (4-page Coloured)	1	\$1,250.00	\$1,250.00	
Business Card (Coloured; Standard Size)	1	\$250.00	\$250.00	
Poster (Coloured)	1	\$500.00	\$500.00	
				\$2,500.00
<u>PRINTING</u>				
Brochure (8 1/2 x 11)	1000	\$2.25	\$2,250.00	
Business Cards	500	\$1.50	\$750.00	
Poster	1	\$500.00	\$500.00	
				\$3,500.00
<u>RESEARCH DAY BOOTH DÉCOR</u>				
Tent (10 x 10 with Peak)	1	\$375.00	\$375.00	
Lighting (for tent)	1	\$115.00	\$115.00	
Tent Draperies	4	\$25.00	\$100.00	
Table Skirtings	2	\$150.00	\$300.00	
Plants (2 1/2ft - 3ft)	4	\$25.00	\$100.00	
Fountain	1	\$550.00	\$550.00	
Transport (For tent)	1	\$250.00	\$250.00	
Transport (Plants & Fountain)	1	\$100.00	\$100.00	
				\$1,890.00
SUB-TOTAL				\$7,890.00
Contingency 10%				\$789.00
TOTAL (VAT Excluded)				\$8,679.00
VAT 15%				\$1,301.85
TOTAL (VAT Inclusive)				\$8,715.85