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## From the Editor

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### Crucifying the Pope and other earthly madness



I am not a Roman Catholic but am always gratified when any world leader stands up for what is true and what is right. The quality of our national leaders remains generally low evidenced by the sad and sorry state of humanity and the planet on which we all dwell. You could well argue that civilisation has not yet started on planet earth. The era of bigotry, war and greed is still upon us. The planet is covered in layers of human detritus and the seas are slowly dying. Since the Pope issued his manifesto to outcry from those who still wish to deceive, several Muslim leaders have also spoken out on the same issues and in this past week the UN has set firm goals to eliminate poverty, and harmful human activity endangering the life of all members of the ecosystem.

It is now incumbent on all national leaders to show leadership. This not only includes political leaders but also national judiciaries and business leaders; those who seem to be intent on maintaining the status quo. It is difficult to find any reason for this chronic greed and ignorance. These same parties must know that their actions are disgraceful and dire and the only logic you can find for such anti social behaviour is that these people perceive they have some economic advantage over others and they are desperate to maintain that advantage at the expense of a planetary home to live on.

Corruption seems to be at work in this formula. The ignorant rich (with noticeable exceptions, like Bill Gates) can get their mates and lackeys elected and exert political influence through money and financial patronage. These same people own the press and try to destroy those who speak the truth through ridicule, slander or false accusations— fortunately social media is providing a strong counterforce.

Am I exaggerating the lengths to which these anti social power mongers will go? No, because I have also been a target for daring to speak up for humanity and the planet and have been told, like no doubt many others of the free press – I am lucky I haven't had a bullet in my back. The hysteria and violent reactions from this awful lot is so way out of proportion to any backward step they may have to personally make to remedy their own bad actions.

Those trying to save the planet from destruction are not anti business. We want good business, clever business, positive and constructive business – just not dirty business.

Thank you to the Pope, the Islamic leaders and the United Nations and the ordinary people of the planet for showing true leadership. We all have a huge task ahead.

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# Employee Engagement and Internal Communication: A United Arab Emirates Study

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## 1. Introduction

Chapter 1 of this research paper provides an overview of the study, explains the purpose of the study, presents the methods of data collection and analysis, states the areas reviewed from existing literature, and describes the remaining chapters of this research paper.

### Study Overview

The study explored which internal communication channels contribute to an employees' sense of engagement and how these channels serve to promote engagement in 16 Emirati employees in a federal organization in the United Arab Emirates. Findings indicated the participants felt most engaged at work when face-to-face communication was used. When the participants wanted to engage colleagues, they also employed face-to-face communication channels. Cultural influences were pivotal in the participants' communication channel selection.

**Purpose of the Study.** The purpose of this exploratory study was to further understanding of, and contribute to, the scant research on the United Arab Emirates (Bristol-Rhys, 2010) employee engagement and internal communication in the United Arab Emirates. The study aimed to determine which internal communication channels contribute to an employees' sense of engagement and how these channels do this.

**Design, Methods, and Analysis.** Data were collected via a one-hour interview with each participant over a four-week period. Interviews were conducted face-to-face. Open-ended questions were administered in a semi-structured format to acquire participants' point-of-views and experiences.

The interview method was selected because (a) it has been noted to be ideal for qualitative research (Cachia & Millward, 2011) and (b) it has been successfully used with Emirati participants (e.g., Al Jenaibi, 2010; O'Neill, 2011).

Two interview questions anchored this study: (a) Which internal communication channels contribute to engaged employees' sense of engagement? and (b) How these channels facilitate this.

Data were analyzed for thematic content. The goal of the analysis was to identify themes and patterns in the communication channels selected by the participants and the reasons for selecting these channels.

**Implications for Practice.** Findings from this study may be used to promote Emirati employee engagement. It may also be beneficial for expatriates in leadership roles in Emirati organizations as communication channels that engage Emiratis may be completely different than those that engage expatriates.

**Document Overview.** Chapter 2 examines concepts relevant to the study in order to ground it academically. Chapter 3 explains the data collection methods used in this study. It also describes the participant population and the method of data analysis. At the end of chapter 3, ethical considerations are presented. The data is presented in chapter 4. Chapter 5 presents interpretation of the findings and limitations of the study.?

## 2: Literature Review

The purpose of this exploratory study was to further understanding of, and contribute to, the scant research on employee engagement and internal communication in the United Arab Emirates. The study aimed to determine which internal communication channels contribute to employees' sense of engagement and how these channels do this.

### Employee Engagement

Employee engagement (EE) is a business management concept that is gaining popularity as only recently has employee engagement been recognized as an essential element of org-

organizational success (Gallup, 2012). Researchers have posited, "Employee engagement is, arguably, the most critical concern for organizations in the 21st century" (Leadership Insights, 2011, p. 7). This assertion was supported by a 2012 Confederation of British Industry (CBI) study showing that 60% of employers planned to prioritize employee engagement in the upcoming year.

Over the years, employee engagement has existed under different names such as 'employee behavior', 'employee satisfaction' and 'job satisfaction' (Mumford, 1972).

**Definition.** Kevin Kruse, author of *Employee Engagement 2.0*, defined employee engagement (EE) as "the emotional commitment the employee has to the organization and its goals" (Kruse, 2012, p. 1). According to Towers Watson (2010), a leading international professional services company, employee engagement is the amount of "discretionary effort" (p. 2) employees put into their work. The Gallup Organization, a research-based performance management consulting company, has conducted more than 30 years of research on employee engagement and it defines employee engagement as "the individual's involvement and satisfaction with, as well as enthusiasm for, work" (Balain & Sparrow, 2009, p.8).

In 2010, Shuck and Wollard studied 140 articles published between 1990 and 2008 to determine consistencies and differences in EE definitions. Their research confirmed a 2006 Conference Board report concluding that employee engagement lacks a consistent definition. This was underscored by Doherty (2010) who asserted, "[E]mployee engagement is one of those often talked about but rarely understood concepts" (p. 32).

However, researchers do concur that "employee engagement is not just about having enthusiastic, happy workers" (Richman, 2006, p. 36); EE entails "an emotional connection to the organization, a passion for work and feelings of hope about the future within the organization" (Gross, 2007, p. 3). Other characteristics of employee engagement that researchers seem to agree on include: loyalty, advocacy, trust, and job satisfaction (Ames, 2012).

For the purpose of this study, employee engagement is defined as "the emotional commitment the employee has to the organization and its goals" (Kruse, 2012, p.1).

**Importance of Employee Engagement.** Research indicates there is a positive relationship between employee engagement and organizational performance (Aon Hewitt, 2012). Research also suggests that engaged employees are (a) more productive (Clampitt & Downs, 1993), (b) innovative (Linke & Zerfass, 2011) and (c) have increased psychological wellbeing (Robertson & Cooper, 2010) and EE is linked to (a) employee retention, (b) employee performance, and (c) organizational profitability (Balain & Sparrow, 2009; Hughes & Rog, 2008; Macey & Schneider, 2008).

Furthermore, research has shown there is a mutually beneficial relationship between EE and organizational profitability (Towers Watson, 2010). The Hay Group noted, "[I]n good times engagement is bolstered by high profits, in difficult times, engagement drives up profits" (2012, n.p.). A study conducted by Gallup in 2012 on a large number of international organizations and their employees from various industries established "that employee engagement strongly relates to key organizational outcomes in any economic climate" (Gallup, 2012, n.p.). The effects of employee engagement on outcomes have been found to include:

- 25% lower turnover (in high-turnover organizations)
- 65% lower turnover (in low-turnover organizations)
- 48% fewer safety incidents
- 41% fewer quality incidents (defects)
- 21% higher productivity
- 22% higher profitability

**Drivers.** A survey study(1) by MSW Research and Dale Carnegie Training involving 1,500 employees in the United States explored the key drivers of employee engagement. The researchers concluded there are three main drivers of employee engagement: (a) "relationship with immediate supervisor, (b) belief in leadership, and (c) pride in working for the company" (Dale Carnegie & Associates, 2012, p. 2). Additional studies by Gallup (2008, 2010, 2012) found the following to be key drivers to employee engagement

- Encouragement from superiors
- Work-life balance
- Belief in the mission and vision of the organization
- Praise and recognition
- Sense of concern for well-being
- Adequate pay and benefits
- Well-defined job expectations
- Resource sufficiency
- Opportunities to use skills

A 2013 analysis of 28 consultancy-conducted research studies indicated the main non-financial drivers of employee engagement most frequently mentioned included meaningful work, manager support, and recognition and appreciation (Table 1).

Although there may be areas of concordance, researchers have stated there is "no definitive all-purpose list of engagement drivers" (CIPD, 2007, p. 2).

While pay and benefits motivate employees, researchers state that they are not effective employee engagement drivers (Branham, 2005; Devi, 2009; Campbell & Smith, 2010). Maslow (1954) emphasized the importance of individuals having a sense of belonging (i.e., engagement).



Table 1 - Meta-analysis of key engagement drivers

	Number of references	Percentage
Meaningful work	21	75%
Manager /leadership supportive	18	64%
Recognition and appreciation	12	43%
Training and development	11	39%
Internal communications	8	28%
Reputation of organization	8	28%

(Pascoe, 2013)

According to a study by the Kenexa Research Institute (2012) that surveyed employees in 40 countries, employees are engaged in a similar manner. While the ways of engagement may be different to better suit cultural sensitivities, an employee's needs and psychological motivations remain constant (Hofstede Centre, 2013).

**History.** A look into the history of employee engagement reveals that in the 1940s employee engagement was associated with entertaining employees. In the 1950s employee engagement was correlated with informing employees, which then became persuading employees in the 1960s. EE shifted to employee satisfaction in the 1970s and in the 1980s employee engagement was likened to open communication and commitment. In the 1990s and 2000s, the relationship between employee engagement and effectiveness emerged (HayGroup, 2012).

The employee-employer relationship first emerged in 1911 when Frederick Taylor published his theory of Scientific Management. Taylor's theory linked employee motivation with organizational profit and monetary rewards: when employees produce more, they increase the organization's profits and, in return, make more money (Taylor, 1911).

In 1959, Erving Goffman, a sociologist and writer, was the first to describe the act of engaging in the workplace in his book *The Presentation of Self in Everyday Life* (Shanmugan & Krishnaveni, 2012). He used the word "embracement" to describe people's attachment and investment in their jobs. Goffman (1959) defined employee engagement (embracement) as the "spontaneous involvement in the role and visible investment of attention and muscular effort" (p. 90).

William Kahn, a pioneering researcher, was the first to use the term "employee engagement" in his 1990 Academy of Management Journal article, *Psychological Conditions of Personal Engagement and Disengagement at Work*. The interview-based study explored situations at work when people personally engaged or "express and employ their personal selves" and disengaged or "withdraw and defend their personal selves" (Kahn, 1990, p. 693). Kahn (1990) defined engagement as "the simultaneous employment and expression of a person's 'preferred self' in task behaviours that promote connections to work and to others, personal presence, and active full role performances" (p. 700).

A decade later, Maslach and Schaufeli (2001) asserted that factors that lead to employee engagement include a feasible workload, rewards and recognition, a sense of control, supportive colleagues, meaningful values, and justice.

Although employee engagement has been identified as one of the greatest concerns for organizations in the coming century (Leadership Insights, 2011), recent research has indicated that only 30% to 60% of employees are actively engaged, making disengaged employees "one of the biggest threats facing businesses" (MacLeod & Clarke, 2009; The Economist Intelligence Unit, 2011, p. 7).

**Employee Engagement in the United Arab Emirates.** Towers Watson's 2012 Global Workforce study uncovered that 65% of employees in 28 countries are not fully engaged in their work and that 54% of employees in the Gulf Cooperation Council are not engaged. In this study which aimed to help companies understand the factors that affect employee performance by measuring engagement, retention and productivity, the 1,000 employee respondents from UAE organizations revealed the top five drivers of engagement in the UAE are communication, leadership, benefits, image, and empowerment. These findings were corroborated by the Kenexa Research Institute (2010) which stated that "strengthening leadership with messages of inspiring and promising futures" (p. 1) is a priority when it comes to engaging UAE nationals (Khaleej Times, 2009).

Organizations in the United Arab Emirates (UAE) are taking notice of employee engagement. In 2007, Abu Dhabi Commercial Bank collaborated with Zarca Interactive, a leading provider of research solutions, to create an employee engagement survey that was specifically designed for the UAE (Abu Dhabi Commercial Bank, 2007)(2). The increasing interest in employee engagement in the UAE is also evident in the Dubai Airports employee engagement program that began in 2012. Dubai Airports hired Start JudgeGill, one of the United Kingdom's top design agencies, to undertake an employee engagement program to inspire and engage their 3,400 employees from 51 different nationalities (Start JudgeGill, 2012). This attention on employee engagement is not unique to the UAE as evidenced that the MENA HR Excellence Awards has a category for Best Employee Engagement.

**Employee Disengagement.** Kahn (1990) defined employee disengagement as "the uncoupling of selves from work roles"

(p. 694). According to Gallup (2013), there are two types of disengaged employees: "not engaged" and "actively disengaged" (p. 4). "Not engaged employees are essentially 'checked out'. They're sleepwalking through their workday, putting time - but not energy or passion - into their work. Actively disengaged employees are not just unhappy at work; they are busy acting out their unhappiness. Every day, these workers undermine what their engaged co-workers accomplish" (Gallup, 2013 p.17). Unengaged employees and actively disengaged employees are emotionally disconnected from their work and are less likely to be productive (Ford, 2013).

A study by Dale Carnegie & Associates (2012) stated that the number one factor prompting disengagement is "relationship with immediate supervisor" (p. 2). Research also found that lack of trust in management is a key factor in employee disengagement (Peoplemetrics, 2011). A study by Right Management/Manpower reported that 94% of employees who indicated that organizational change was poorly handled by management were disengaged; good communication with employees was a major factor in whether employees felt the change was handled well (Peoplemetrics, 2011). A disconnection between the employee and the organizational vision and purpose can also cause employee disengagement (Peoplemetrics, 2011). According to a report by Blessing White (2011), lack of opportunities to grow or advance is also a major cause of employee disengagement.

Although organizations recognize that employee disengagement is one of their biggest threats, only a few companies address the problem (The Economist Intelligence Unit, 2011). Employee disengagement impacts employee retention (Branham, 2005), absence rates (CBI, 2012), and decreases productivity (Gallup, 2006).

### Internal Communication

Internal communication (IC) is a powerful tool. Bill Gates (2000) once said, "[L]ike a human being, a company has to have an internal communication mechanism, a 'nervous system,' to coordinate its actions" (p. 22). The study of IC is one of the fastest growing areas in the communication field (Donaldson & Eyre, 2000) and is part of the wider field of corporate communication (Welch & Jackson, 2007).

**Communication.** Clutterbuck and Hirst (2003) defined communication as "meaningful interaction between two or more people" (p. xxi). Barrett (2006) stated, "The basis of any relationship is communication. Without communication - be it sign language, body language, e-mail, or face-to-face conversation - there is no connection and hence no relationship" (p. 175). According to O'Neill (2011),

Leaders use communication to establish, build, and strengthen relationships (or to negate or weaken them) (Collins, 2001; Denning, 2007; Rowe, 1990) and from this to influence follower feelings, beliefs, thoughts, and practice. Flanagin and Waldeck (2004) positioned communication as essential for affiliation building in organizations. (p. 38)

Lauring (2011) wrote,

[C]ommunication is a mechanism through which groups are created, maintained and modified (Scott, 1997)...In other words, not only the level of comprehension but also the intentions and positions of groups and individuals affect the sharing of information and the building of relationships that could be the outcome of a communicative encounter (see Battilana, 2006). Accordingly, effective communication depends not only on the skills of organization members but also on group and intergroup dynamics (Weick, Sutcliffe, & Obstfeld, 2005). (p. 235)

Researchers posit communication happens on two-levels: the content/cognitive and the relational/affective (Hall & Lord, 1995; Madlock, 2008). The content levels of a message communicate information while its relational levels communicate feelings (Adler & Elmhorst, 2008). The relational aspects of a message are often conveyed non-verbally. The content aspects of a message are most frequently conveyed verbally.

**Definition.** In the business context, IC is defined as "all formal and informal communication taking place internally at all levels of an organization" (Kalla, 2005, p. 304). Kevin Ruck (2012), founding director of PR Academy, defined internal communication as "corporate level information provided to all employees and the concurrent provision of opportunities for all employees to have a say about important matters that is taken seriously by line managers and senior managers" (para. 4).

**Development.** The concept of internal communication has been around for more than a century. The earliest documented evidence of internal communication in an organization dates back to the 1840s when employees developed and distributed internal newsletters (Ruck, 2012). The introduction of the telegraph in the 1830s and the telephone in the 1870s changed the pace of internal communication by supplanting slower channels of communication (Luther, 2009) such as post-by-sea, horse, and carrier pigeon (Luther, 2009). From the 1840s to the 1940s, internal communication was predominated by internal newsletters and magazines with articles by top management (Ruck, 2013). A top-to-bottom, one-way communication model prevailed, where information cascaded down to employees, and the upward movement of ideas from junior employees was stymied.

In 1942, the first book on internal communication, *Sharing Information with Employees* by Heron, was published (CiprinsideUK, 2012). Heron (1942) wrote,

the first element [in sharing information]... is the understanding by employees that facts about the enterprise are not being concealed from them. The knowledge that they can get the information they want is more important than any actual information that can be given to them...the program should be a continuous one, a method of conduct rather than a campaign... it must not become an institution apart from the actual work or operation of the enterprise. (p. 75)

The idea of two-way communication between employees and their employer proposed by Heron is applicable and encouraged today.

In the 1990s, new tools for internal communications emerged. Senior executives started using town hall meetings, voicemail and e-mail to communicate with stakeholders (Luther, 2009). Organizations are now using instant messaging for departmental and informal internal communication (Vanover, 2008); recent advancements in technologies have resulted in the rise of new internal communication channels (Horomia, 2007). The Internet facilitates a two-way communication model (Luther, 2009).

Recently, Internal Communications in many organizations have moved from being part of the Human Resources department to directly reporting to top management (Luther, 2009). This is evidence of a change in perception of the importance of internal communication. David Ferrabee, the Managing Director of Change and Internal Communications at Hill & Knowlton, recognized this shift in the role of internal communications: "15-20 years ago very few businesses had someone in the company with 'Internal Communications' in their title. Today almost all FTSE 100 (Financial Times Stock Exchange Index) firms do. And Fortune 500, too" (Luther, 2009, Recent Past section, para. 1).

**Channels.** The channel is the medium used by the sender to send the message. Media richness theory (MRT) implies that channels can be ranked according to their degree of richness (Daft & Lengel, 1986). Channel richness is the medium's capability to carry "multiple communication cues, provide instant feedback, and offer a personal focus to the communication" (Sullivan, 1995, p. 49). Flatley (1999) stated, "Media richness theory ranks communication channels along a continuum of richness, defining highly rich channels as those handling multiple inherent cues simultaneously, such as using feedback, nonverbal cues, and several senses simultaneously" (p. 1).

Social presence theory (SPT) builds on the richness concept of the MRT. It adds "the perception of the people who use the media and their evaluations of the "social presence" of each channel" (Sullivan, 1995, p. 50). Researchers note social presence is the ability of a channel to support the social relationship between interactants (Short, Williams, & Christie, 1976). Social presence theory assumes that interactants value a channel according to its 'psychological closeness'. According to Kurpitz and Cowell (2011),

[S]ocial presence refers to the degree to which a medium conveys the psychological perception that other people are physically present and suggests that media that are capable of providing a greater sense of intimacy and immediacy will be perceived as having a greater degree of social presence (Short et al., 1976). (p. 58)

According to Rice (1993), Media Appropriateness integrates channel richness and social presence. The purpose of this theory is to predict channel use. Rice (1993) ranked media appropriateness from most to least to be face-to-face, telephone, video, letter and email.

Researchers have concurred that channel features are not objective but subjective and are shaped through the interactants' experience with the channel, the topic, the context, and other interactants (Carlson & Zmud, 1999). D'Urso and Rains (2008) stated that these four areas impact user's views of channel richness. O'Neill (2011) noted that choosing the channel of communication depends on the message, the sender, and the target audience.

Channels of communication include face-to-face, telephone, voice mail, email, letters, presentations, reports, and intranet.

*Face-to-face.* This communication channel is considered the richest information channel "because a person can perceive verbal and nonverbal communication, including posture, gestures, tone of voice, and eye contact, which can aid the perceiver in understanding the message being sent" (Waltman, 2011, n.p.). This channel conveys the greatest quantity of communication data.

A study by Dewhirst in 1971 found that face-to-face communication was preferred over written communication. This channel is considered effective for reducing communication breakdown because "in face-to-face conversation, feedback is more easily perceived" (Debashish & Das, 2009, p. 38). O'Neill (2011) stated that Emirati females have a preference for face-to-face communication because it was the fastest medium and decreases communication breakdown. A study by Pascoe (2013) in Qatar explored the link between internal communication and employee engagement; it stated that face-to-face communication was the most preferred way of personal business communication.

*Telephone.* The telephone is an oral channel. The telephone is a communication channel that is widely used and considered an information rich channel. It provides similar benefits of face-to-face but not the visual cues.

A study by Morley and Stephenson in 1969 concluded that arguments were more successfully presented over the telephone than face-to-face. This channel shares the same benefits as face-to-face and "reduces time-space constraints" (O'Neill, 2011, p. 47). Researchers noticed "fewer interruptions, shorter pauses, shorter utterances, less filled pauses, and a greater amount of speech in telephone than in the face-to-face channel" (Housel & Davis, 1977, p. 51). Participants in O'Neill's 2011 study of Emirati females stated that this channel provided instantaneous feedback.

*Voice mail.* Voice mail is considered suitable for sending short messages that do not require instant feedback (Reinsch & Beswick, 1990). This channel is also useful when the sender wants to avoid contact with the receiver (Hiemstra, 1982).

*Email.* Email is the most common written communication channel in the workplace and the second most frequently used channel (Barrett, 2006). This channel's main advantage is its speed of transmission (Berry, 2011); email can "carry more



information faster, at a lower cost, and to more people while also offering increased data communality" (Flanagin & Waldeck, 2004, p. 142). Berry (2011) asserted that email enables documentation because of its archiving features.

A study in 1984 by Trauth, Kwan and Barber concluded that "a major reason to employ electronic messaging systems is to increase productivity among knowledge workers by increasing the efficiency and effectiveness of internal communications" as it enhances the flow of communication (p. 124). On the other hand, email lacks non-verbal cues. Non-verbal cues are a key way to determine the affective aspects of a message (Alder & Elmhorst, 2008). Stevens and McElhill (2000) stated, "written communication is not the best medium for transmitting messages in every situation and it is often not the best way to motivate employees. Yet email is often employed as if it was the most effective medium for every occasion as though it should automatically motivate and engage employees" (n.p). According to O'Neill (2011), Emiratis females reported that email is the most frequently used communication channel. The participants in O'Neill's study stated that email communication could be used for (a) archiving meetings or as a reference for employees who may not recall accurately, (b) archiving for organizational documents such as performance evaluations, (c) archiving for defensive mechanisms when the participants were accused of wrongdoing, (d) providing detailed information, (e) increasing transparency, (f) creating an esprit de corps by increasing awareness of team member's tasks, and (g) enhancing productivity by creating awareness of all activities so that employees are aware if there are areas of overlap. Pascoe (2013) stated that email was the most preferred communication channel.

**Summary.** A study by Newsweaver stated that face-to-face, intranet, and email are the most used internal communications channels (2013). The study reported that the use of print publication has decreased.

Choosing the appropriate communication channel is essential as it impacts the effectiveness of communication. Barry and Fulmer (2004) asserted congruence between the communication goal (e.g., relationship building, information exchange, sender ease) and the channel employed is key to effective communication. Short et al (1976) indicated different tasks (e.g., information exchange, conflict resolution, decision making) need different channels. Sullivan (1995) observed that preferences were related to the type of task and in some situations email was preferred over oral communication channels. Jones and Pittman (1982) indicated the nature of the task impacts channel selection. For example, motivating an employee may require an inspirational appeal to induce the employee's emotion; this will need a channel that is rich in non-verbal cues like face-to-face. Reinsch and Beswick (1990) asserted rich channels support social relationships; therefore, when a relationship is important, richer channels should be used. In line with MRT and SPT, Berk and Clampitt (1991) supported the use of oral channels for relational messages and written channels for content-orient messages. Berk and Clampitt (1991) asserted, "Because communication channels have certain attributes, senders must be sure that their intentions are congruent with

the dynamics of the channel" (p. 3). In agreement, Kurpitz and Cowell (2011) noted, "some media (e.g., videoconferencing or telephone) have greater social presence than others (e.g., e-mail), and the use of media higher in social presence should be important for social tasks such as building relationships (Robert & Dennis, 2005)" (p. 58). In Kurpitz and Cowell's 2011 study, subordinates identified specific types of messages require specific channels. For example, participants believed confidential information should be communicated face-to-face (Kurpitz & Cowell, 2011).

Channel selection is important because media choice has been shown to impact organizational performance (Markus, 1994). Reinsch and Beswick (1990) remarked, "Decisions about channel are important since they help determine the impact of specific messages and the effectiveness of message initiators. In the aggregate, such decisions help shape the effectiveness, efficiency, and ambience of an organization" (p. 801). The 2013 Newsweaver study also revealed that the most effective internal communication channels are intranet, email, and face-to-face communication.

## Culture

Lustig and Koester (1999) have posited, "People from different cultures whenever the degree of difference between them is sufficiently large and important that it creates dissimilar interpretations and expectations about what are regarded as competent communication behaviours (p. 58). Research also confirmed that when interactants have "different paradigms, norms, standards, and values"; they have different cultures (Phan, Siegel, & Wright, 2009; p. 331). Jameson (2007) asserted that culture should include culture groups such as vocation and generation.

According to Edward Hall (1959), "Culture is communication and communication is culture" (p. 169), where differences in communication styles represent different cultural frameworks (Adler & Elmhorst, 2008). Research indicated that cultural values influence communication behaviors (Morand, 2003). This notion is supported by the link between individualist/collectivist cultures (Hofstede, 1980) and high-context/low-context communication cultures (Hall, 1976). Individualist cultures have a preference for low context communication while collectivist cultures tend to prefer high-context communication. Thomas (2008) asserted, "[C]ollective cultures are 'High Context', that is, more implicitly expressed through intonation, euphemism and body language than in the coded explicit part of the message (Hall 1976; Hofstede 1997; Loosemore 1999)" (p. 86).

Limaye and Victor (1991) noted,

Japan, which has access to the latest communication technologies, relies more on face-to-face or oral communication than the written mode. We think that the determining factor is not the degree of industrialization, but whether the country falls into low-context or high context cultures as Edward Hall defines the categories (Hall, 1959). (p. 286)



O'Neill (2011) stated, "Culture also shapes perceptions of channels and channel features and consequently selection and use" (p. 75). Following this, it is safe to assume that national-level culture norms will influence channel selection. For instance, groups from collectivist cultures demonstrate a greater preference for rich and high social presence channels than groups from individualist cultures (Hara, Shachaf, & Hew, 2007).

**Generation.** It is widely known that people from the same generation often share the same cultural value, beliefs and expectations (Kupperschmidt, 2000; Twenge & Campbell, 2008). Walker (2009) asserted, "Gen Y prefer to communicate synchronously" (p. 3). Research stated that Generation Y employees prefer more direct communication (Johnson Controls, 2010). Limaye and Victor (1991) asserted different perceptions of time influence perceptions of immediacy of feedback.

**Gender.** Researchers have postulated the difference between males and females can be so great that males and females can be belonging to different cultures (Maltz & Borker, 1982; O'Neill, 2011). Research indicated that men and women communicate differently (Tannen, 1986, 1990, 1994, 1996) because, as children, they are socialized to do so (Maltz & Borker, 1982). Several researchers proved that men and women are culturally different (Borisoff & Merrill, 1992; Gilligan, 1982; Lakoff, 1975; O'Neill, 2011). Studies on gender and channel use have been scant (O'Neill, 2011). However, a study by Lind in 2001 established, "Communication channel richness does appear to have cultural/gender differences which in turn lead to differences in channel usage" (p. 238). Gefen and Straub's (1997) study of three nations (Japan, USA, and Switzerland) found that female and male perceptions of email varied but not their use.

### United Arab Emirates

The United Arab Emirates (UAE), formerly known as the Trucial States, is a federation that consists of seven Emirates: Abu Dhabi, Dubai, Sharjah, Ajman, Um al-Qaiwain, Ras al-Khaima, and Fujairah. Abu Dhabi is the largest emirate, covering 87% of the total area of the UAE (Abu Dhabi Government, n.d). The UAE was formed in 1971 after gaining independence from Britain.

Oil and gas are major drivers of the UAE's economy. Nearly 25% of the country's GDP is based on oil and gas output (Central Intelligence Agency, 2013). Abu Dhabi, the capital of the UAE, controls approximately 90% of the country's oil and gas reserves (Ministry of Finance and Industry, n.d).

The population of the UAE in 2010 was 8.264 million with only 11.4% being Emirati (UAEInteract, 2011). In mid-2012, the population of Abu Dhabi was 2.33 million; only 476,722 (20.4%) people were Emiratis (UAE Interact, 2013).

Hofstede (1980) categorized the UAE's culture as a collectivist one. Thomas (2008) noted,

Within the United Arab Emirates, it is claimed that legitimacy of a ruler derives from consensus and consent, and the principal of consultation or shura is an essential part of that system

(Ministry of Information and Culture, 2000). The operationalization of consensus and consent has traditionally taken place in the 'majlis' (meeting place, council or sitting room) common in Arab cultures (Ministry of Information and Culture 2000; Winslow, Honein, and Elzubeir 2002). In the 'majlis' leaders may hold an 'openhouse' discussion forum where individuals may forward views for discussion and consideration (Ministry of Information and Culture 2000). This process has also been observed more broadly in collective cultures whereby opinion on new issues is formed in family conferences (Hofstede 1997, 59). (p. 85)

This demonstrates that Emiratis expect to be a part of the decision making process. This notion has been reinforced by researchers from the region such as Abdalla and Al-Humoud (2001), who asserted, "Gulf societies endorse typical collective values and practices such as preference for personalised relationships, broad and profound influence of in-group on its members, and limited cooperation with other groups" (p. 511).

According to Edward Hall (1976), the United Arab Emirates can be considered a high-context communication culture. Thomas (2008) posited,

Firstly, it is claimed that an oral tradition exists in the UAE (Winslow, Honein, and Elzubeir 2002) over a written tradition and that an informal, communal, 'majlis setting may best support such a tradition. Secondly, it has been noted that collective cultures are 'High Context', that is, more implicitly expressed through intonation, euphemism and body language than in the coded explicit part of the message (Hall 1976; Hofstede 1997; Loosemore 1999). Communications are therefore 'integrally linked to the context of relationships within which they occur, including the history of the interactants, their common ground of shared understandings and the setting of the interaction' (Smith, Bond, and Kagitcibasi 2006, 153). (p. 86)

**Internal Communication in the United Arab Emirates.** A study conducted by a leading communications consultancy, Hill & Knowlton, and published in Middle East Corporate Reputation Watch 2008 surveyed more than 500 managers and employees in the Gulf Cooperation Council. CEO of Hill & Knowlton Middle East, Dave Robinson, commented on the study indicating that organizations in the UAE need to work better on effectively structuring their internal communication departments in order to improve employee morale and productivity (AMEinfo, 2008). The study revealed the following key findings about communication in organizations in the UAE:

- 54% of employees feel that their organization's business objectives are clearly explained to them
- 49% of employees feel that they do not receive the information they need to do their job
- 25% of managers believe that it is not necessary for employees to fully understand how their job relates to the organization's objectives

- 47% of employees rely on external sources for information about their job
- 7% of managers are not aware who is responsible for internal communication in their organization

The UAE government has recently started concentrating on internal communication. In 2008, the Government Communication Office in the Ministry of Cabinet Affairs launched its Internal Communications Manual to promote consistent and clear communication in UAE Federal Government entities (UAE Interact, 2008). The manual included guidelines on strategy development, key messages, policies and procedures, email templates, and communication channels and tactics. The Minister of Cabinet Affairs, His Excellency Mohammad Al Gergawi, said, "[T]he Internal Communications Manual will generate positive results in raising the overall performance standards of the government" (UAE Interact, 2008). The Secretary General of the Ministry of Cabinet Affairs, Najla Al Awar, announced the UAE is particularly enthusiastic about increasing employees' involvement through timely internal communications that update them on organizational developments (UAE Interact, 2008). Al Awar indicated that the Internal Communications Manual will serve as a catalyst for effective engagement and interaction between all employees (UAE Interact, 2008).

### Employee Engagement and Internal Communication

Research has shown internal communication is a key driver of employee engagement (MacLeod & Clarke, 2009; CIPD, 2012; Ruck, 2012). According to Towers Watson (2010), internal communication is one way to connect an organization to its employees and also to connect employees who are generationally and culturally different. Bleeker and Hill (2013) asserted that good internal communication in an organization can motivate and engage employees because IC delivers a 'clear line of sight', creates employee engagement, effects the external reputation of the organization, allows employees to understand what changes are happening and how they should respond, and provides regulation and compliance because employees will be aware of all the rules and regulations.

It is important for organizations to be aware of the factors and tools that engage employees (Accor Services, 2008). Gallup (2008, 2010, 2012) found the following communicative activities to be key drivers to employee engagement

- Encouragement from superiors
- Praise and recognition
- Well-defined job expectations

Powis (2012) affirmed that employee engagement is the result of several financial and non-financial factors, one being internal communication in the form of recognition. The top drivers of employee engagement acknowledged by the Chartered Institute of Personnel and Development (CIPD) emphasize the importance of internal communication in employee engagement. According to CIPD (2012), the two top

drivers of employee engagement are having opportunities to communicate upwards and feeling well informed about organizational developments. Managers' abilities to communicate internally are considered key predictors of employee engagement (Barrett, 2006; McKinsey, 2010; Welch, 2011; The Economist Intelligence Unit, 2011; Xu & Thomas, 2011; CIPD, 2012). Multiple research has proven that a manager's ability to effectively communicate with employees along with encouraging two-way communication is more important than pay and benefits to create employee engagement (Hertzberg, 1959; Clutterbuck & Hirst, 2002; Barrett, 2006; CIPD, 2012; Jelf Group, 2013).

### 3. Methodology

The purpose of this exploratory study was to further understanding of, and contribute to, the scant research on employee engagement and internal communication in the United Arab Emirates. The study aimed to determine (a) which internal communication channels contribute to engaged employees' sense of engagement and (b) how these channels do this.

Data were collected via a one-hour long interview with each participant. Open-ended, semi-structured questions were used to gather participants' points-of-view.

Data were analyzed for thematic content. The goal of the analysis was to ascertain which communication channels engaged participants and the reasons they had for choosing these communication channels.

This chapter begins with discussion of methodological fit followed by a review of interview-based research methods. The chapter ends with a presentation of the methods utilized in this study including data collection, instrumentation and ethical concerns.

#### Methodological Fit

One-to-one, face-to-face, semi-structured interviews were the primary method of data collection.

Cachia and Millward (2011) asserted that face-to-face interviews are "long established as the leading means of conducting qualitative research" (p. 265). Krueger and Casey (2009) indicated that interviews "can provide insight into complicated topics when opinions or attitudes are conditional or when the area of concern relates to a multifaceted behavior or motivation" (p. 19).

#### Advantages of the interview format used include

- researcher access to communication rich elements that provide social cues such as body language, hand gestures and voice tone (Gable, 1994; Opdenakker, 2006; Conrad & Poole, 2012)
- participant involvement on the intellectual and emotional

levels (Byres & Wilcox, 1991; Fontana & Frey, 2005; O'Neill, 2011)

- data depth (Stokes & Bergin, 2006; O'Neill, 2011)
- plasticity in questioning (O'Neill, 2011)
- discreetness that supports psychological safety for participants (O'Neill, 2011)
- flexibility of time

Krueger and Casey (2009) noted "[t]he open-ended approach allows the subject ample opportunity to comment, to explain and to share experiences and attitudes" (p. 3) and it allows "individuals to respond without setting boundaries or providing them clues for potential response categories" (p. 3). As such, interviews "contribute to the emergence of a more complete picture of the participants' working environment and their everyday practices" (Schnurr, 2009, p.18).

The disadvantages and limitations of the interview format employed include (a) the possibility of non-conformity between interviews (Wimpenny & Gass, 2000), (b) limiting relevant information from emerging due to over-structuring of the interview (Charmaz, 1994), (c) lack of generalizability (Fontana & Frey, 2005; Krueger & Casey, 2009; Stokes & Bergin, 2006; O'Neill, 2011), and (d) selection bias.

The study aimed to use the participants' perceptions to develop an understanding of which internal communication channels engage employees and how these channels promote employee engagement. A review of the literature showed that interview-based methods were parallel to the aims of the study. This assertion is supported as William Kahn, who wrote the seminal article on employee engagement, used the interview method in his groundbreaking 1990 Academy of Management study.

A review of the socio-cultural context corroborated the use of the interview method. The one-to-one, face-to-face, researcher-respondent interview fits the socio-cultural needs of participants from honor-based cultures such as Emiratis. O'Neill (2011) posited, "Three aspects of the interview method salient to interview-based research conducted in honor-based cultures such as the United Arab Emirates are: psychological safety, depth, and flexibility" (p.97). Haring (2008) noted, "Qualitative methodology is especially useful in areas where there are limitations in the market knowledge base. These include small, close-knit communities". These descriptors have been applied to the UAE by a variety of noted researchers such as Bristol-Rhys (2010).

## Participants

The screens for participant eligibility were (a) ability to participate in English; (b) above 18 years of age and below 60 years; (c) Emirati; (d) working in the organization for more than six months; (e) willingness to participate in one face-to-face interview; (f) willingness to have their contributions to the study publicly disseminated; (g) at least a high-school graduate; and

(h) identification as an engaged employee. Because I had an existing professional relationship with the participants, I was able to identify engaged employees.

The participant group consisted of sixteen Emiratis that are employed at a federal organization in the UAE: four females and four males; five from Generation X (people born between 1964-1978) and eleven from Generation Y (people born between 1979-1991).

Each participant was given an informed consent form, which had been approved by Zayed University's Institutional Research Review Board for ethical clearance. The form stated the topic of the study (the link between employee engagement and internal communication). It also indicated that participants were not required to participate, and, if they did participate, they could withdraw from the study at any time without penalty. All participants of the study signed the form and participated fully.

## Sampling

Although the research sample was small (N=16), Marshall (1996) indicated this does not necessarily affect validity or reliability in qualitative studies, "...an appropriate size for a qualitative study is one that adequately answers the research question" (p. 523).

The sampling method was non-random, convenience sampling. Convenience sampling is the intentional choice of an informant because of their qualities, which allows the researcher to source people who are knowledgeable and willing to provide information (Tongco, 2007). Due to the size and nature of the organization as well as socio-cultural factors that inhibit participation in research and the specificity of the screens, convenience sampling was the most appropriate option. Employees with whom the researcher had an existing relationship (that encouraged openness, honesty and disclosure) and who were identified as engaged were targeted for selection. Marshall (1996) noted,

"Qualitative researchers recognize that some informants are 'richer' than others and that these people are more likely to provide insight and understanding for the researcher. Choosing someone at random to answer a qualitative question would be analogous to randomly asking a passer-by how to repair a broken down car, rather than asking a garage mechanic-the former might have a good stab, but asking the latter is likely to be more productive" (p. 523)

Tremblay (1957) affirmed that in order to acquire that best qualitative data, it is imperative to have the best 'informants'.

## Research Site

The organization currently employs approximately one hundred and sixty employees. It is a government organization that is high-security. It is physically compact. It is situated in one floor but in two separate buildings. The physical location of the interview is a critical element that needed to be addressed.

Robert Merton indicated, “[P]eople revealed sensitive information when they felt they were in a safe, comfortable place with people like themselves” (as cited in Krueger & Casey, 2009, p. 3). For this reason, and to maintain confidentiality, the interviews took place in a secluded but familiar meeting room within the workplace. As the findings of the study directly relate to the success of the organization and fell under the purview of the researcher’s duties at the organization, permission was given to interview the participants on the premises during working hours.

The Internal Communication function in the organization is located within the Communication Department. The organization employs the usual internal communication channels such as email, a quarterly internal newsletter, plasma screen notice boards, intranet postings, posters, and occasionally internal events. In the past, the organization had a minimum of three ‘town hall’ meetings each year. The town hall meetings still take place but are less frequent. In addition, employees used to independently organize weekly lunches for all staff; however, these no longer occur because the organization grew.

**Design**

Choosing a suitable research methodology took into account several factors that were highlighted by Blanche, Durrheim,

and Painter (2007). The factors included the research purpose, theoretical paradigm, context, and research techniques.

**Phases**

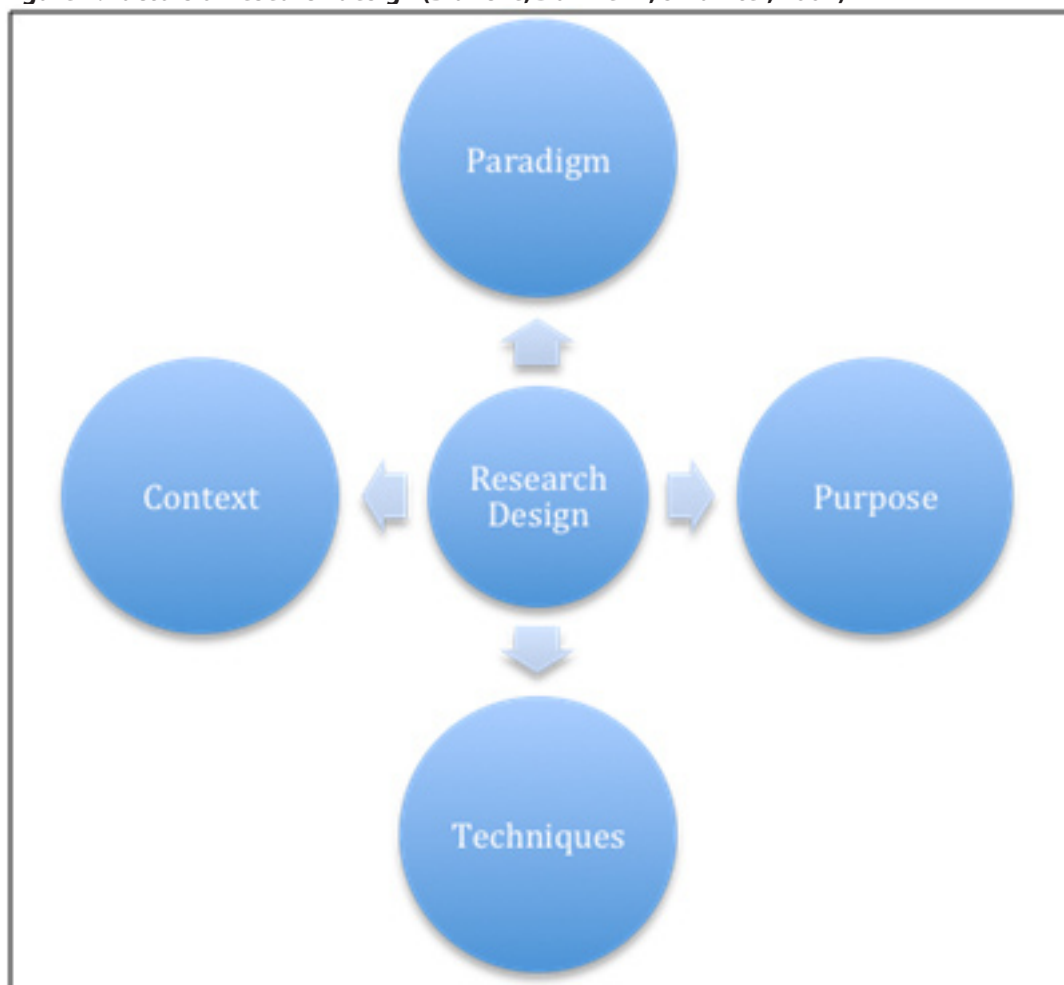
The study consisted of four phases: foregrounding, pre-interview, data collection, and member checking.

**Foregrounding.** To provide guidance throughout the research, the research team began researching topics related to the primary focus of this research study approximately two months before data collection.

**Pre-interview.** Before finalizing the interview questions, the research team reflected on question phrasing and tips on how to get the most useful information during interviews. The team also conducted three mock interviews to improve interviewing and field note taking skills.

**Data Collection.** The research team opted for semi-structured interviewing using open-ended questions to learn about participants’ perceptions and opinions about (a) which internal communication channels contribute to engaged employees’ sense of engagement and (b) how these channels do this. Participants were sent the informed consent form one week

**Figure 1: Factors of research design (Blanche, Durrheim, & Painter, 2007)**





prior to their interviews. Interviews lasted approximately one hour per participant. All interviews took place face-to-face.

**Member Checking.** After the data analysis was finalized, the data and analysis were provided to the participants for member checking. Gordon (1996) emphasized the importance of cooperation between the researcher and participant during the data analysis process. About one week after the participants received the data analysis, the participants were contacted by telephone for their comments and feedback on the findings.

## Questions

The interview questions (Appendix A) focused on the following: (a) which internal communication channels contribute to engaged employees' sense of engagement? and (b) How these channels do this?

To generate rich data, participants were asked a series of open-ended questions that explored their use of communication channels in their day-to-day life and the workplace. Questions at the beginning of the interview were broad and general, as the interview progressed, questions began telescoping to become more focused to the research question. The interview questions can be categorized into three categories; "(a) descriptive, (b) comparative, and (c) relationship" (Onwuegbuzie & Leech, 2006 p.480). The first set of the questions was descriptive and focused on demographics such as age, gender and tenure with the organization. The second set of questions was comparative and asked participants to compare communication channels that they use in their day-to-day life and in the workplace. The final set of questions can be categorized as relationship questions. The final set asked participants about the internal communication channels that make them feel involved and connected in the workplace (and how) and which channels they use when they want others to feel involved and connected in the workplace (and why). Each interview began with an informal chat, participants who had questions regarding the study has an open opportunity to ask them then. The concluding questions of the interview were: 'Is there anything we didn't talk about that you think we should?' and 'Are there any questions that you want us to go back and revisit'. This was to ensure that all pertinent information was presented.

## Answers

In line with Emirati cultural mores and to protect the participants' anonymity, the findings were associated with the group rather than identifiable to particular participant. Similar to Al Jenaibi (2010), when referring to a contribution of a participant, this was done using a code that has no relation to the participants' names. Furthermore, some data and analysis were not included in the study to protect the participants' identity.

## Instrumentation

Field notes were used as a method of data collection. Audio and video recording was ruled out as an option due to socio-cultural norms and privacy preferences of the participants.

This decision was supported by others who have conducted research in the region. To encourage openness in her study of Omani female leaders, Al Lamky (2006) did not tape record interviews but she did take hand-written notes while Bristol-Rhys (2010) noted, "[T]he women I have talked with have all expressed their opinions quite openly, none wanted to be identified in the book, or indeed to be identifiable" (p. 23). In addition, Al-Jenaibi (2010) concluded, "Conducting research in the UAE is often difficult...doing interviews with many employees must be completely confidential. For example, many females will not provide their names and work places in order to be able to speak freely" (p. 72).

In addition to cultural congruence, main advantages of field notes are their cost, reliability, and simplicity: no expensive equipment to purchase and set up (O'Neill, 2011).

The disadvantages of field notes occur in the researcher such as incomplete recollection of the participants' answers and bias. As mentioned by Krueger and Casey (2009), many "don't know how to take effective field notes. They record impressions, interesting ideas, perhaps a few choice words or notes... These notes are fragmented and incomplete for analysis" (p. 94). Jasper (1994) noted the need for researchers to develop skills that enable the collection of data without "contaminating" (p. 311) it. Krueger and Casey (2009) emphasized, "The interviewer encourages comments of all types-positive and negative. The interviewer is careful not to make judgments about the responses and to control body language that might communicate approval or disapproval" (p.6). Byres and Wilcox (1991) advised interviewers to "refrain from contributing to the discussion as much as possible and monitor his or her actions carefully" (p.69). To accomplish this Gillham (2002) advised that the interviewer should be reflective and self-aware. For this reason, the researchers engaged in supervised practice before commencing actual data collection from the study participants.

There are two methods to formatting field notes: "record notes and quotes" (Krueger & Casey, 2009, p. 94) and "capture details and rich descriptive information" (Krueger & Casey, 2009, p. 94). In the former method, key words and quotes are recorded by the researcher on different sides of a page. Field notes for this study followed the "notes and quotes" format.

In this study, both the participants and one of the researchers were Emirati, thus eliminating the need to employ a cultural confederate.

**Coding and analysis.** The goal of this study was: (1) identify which internal communication channels contribute to engaged employees' sense of engagement? and (b) ascertain how these channels promote engagement. The content of participants' responses were analyzed to meet the goals of this study. As noted by Krueger and Casey (2009), during analysis, not all questions or answers are of the same value because different questions have different purposes. The amount of time and attention given to each question should be comparative to its importance to the main research goals. Questions, such

as opening questions, do not need to be analyzed (Krueger & Casey, 2009). In this study, only the two main questions were analyzed. The purpose of the other questions was to relax the participants, to allow them to 'warm-up' and to stimulate their thinking about communication channels and preferences.

Gillham (2000) indicated participant discussion can be analyzed to determine content, "Content analysis is about organizing the substantive content of the interview...there are two essential strands to the analysis: identifying those key, substantive points; putting them into categories" (p. 59). To undertake this, a "Key Concepts" framework was applied (Krueger & Casey, 2009, p. 125). The main purpose of this framework was "to identify a limited number of important ideas, experiences, preferences that illuminate the study" (Krueger & Casey, 2009, p. 125). As per Lincoln and Guba's (1985) recommendation, data were analyzed by identifying key concepts and themes by reading and re-reading of notes. Then, the main concepts were coded and put into categories.

The research team developed a rank of order of channel use for each interview question. Channel use and justifications could be compared across conditions. This was the second level of analysis.

The third level of analysis was more complex; it linked channel use and justifications with findings from research in the literature. It aimed to present theoretical explanation for channel selection.

Qualitative content analysis presented trends of channel selection; these were described qualitatively. The findings in this study are presented in narrative and statistical format organized by question and channel.

### Ethical Considerations

Two main areas that were put into consideration while undertaking this study: research bias and confidentiality.

To ensure the ideas presented are the participants' and not those of the researchers, the research team self-monitored for bias. The team also compared the data to existing studies for congruence. Most importantly, the research team focused on the aim of the research "to accurately represent the range of views" (Krueger & Casey, 2009, p. 126).

To ensure confidentiality several measures were put into place. Participants were allowed to withdraw from the study at any time. Participants were not required to answer a question. Participants' answers were not audio recorded. Participants' files were labeled with a two-letter code unrelated to the respondent's name. The names of the participants were never shared. And all data are stored securely and require password access.

## 4: Presentation of Data

The purpose of this exploratory study was to further understanding of, and contribute to, the scant research on employee engagement and internal communication in the United

Arab Emirates. The study aimed to determine which internal communication channels contributed to engaged employees' sense of engagement and how these channels do this.

To obtain accurate data about the topic of inquiry, participants described actual internal communication channels that they use to send and receive, explained which channels make them feel most connected and involved (and how), and explained which internal communication channels they use when they want to make others feel connected and involved (and why). Questions were phrased so as not to bias participants' responses and to gather as much information as possible from the participants. The categorical descriptors used throughout the study were gender and generation.

### Participants

The average participant age was 32 years. The average participant age for the female participants was 32.35 years and the average participant age for the male participants was 31.75 years. Three females were from Generation X (born between 1964-1978) and five were from Generation Y (born between 1979 and 1991). Two males were from Generation X and six were from Generation Y.

Only one of the participants attended an Arabic-medium university, the remaining 15 participants attended English-medium universities. Four of the 16 participants attended English-medium, post-graduate education (i.e., Masters).

The average number of years of work experience was 8.8 with a range between one and 18 years. The average number of work experience for the female participants was 7.8 years while the average number of work experience for the male participants was 9.8 years. The average time worked at the federal authority during the time of the study was 3.06 years, with a range of 1.4 years to 5 years. The average time worked at the federal authority for the female participants was 3.5 years while the average for the male participants was 2.5 years. Table 2 (opposite page) summarizes the participants' gender, age, professional experience, and tenure at the target organization distribution.

### Interview Questions

Questions one to seven focused on demographics and tenure (3). The purpose of these questions was to develop a context. Questions eight and nine were about the communication channels that the participants used in their daily life. The purpose of these questions was to (a) stimulate the participants' thinking, (b) relax the participants, and (c) to get the participants comfortable with the interview process. Questions ten to 15 focused on the communication channels used by the participants in the workplace. The purpose of these questions was to focus the participants' responses for the following questions and to stimulate the participants' thinking by comparing their responses with what they feel are engaging communication channels. Questions 16 and 17 focused on internal communication and engagement in the workplace. The purpose of this question was to determine which channels are

**Table 2: Participant Gender, Age, Years Professional Experience, and Tenure at Target Organization Distribution**

Gender and Generation	Number of Participants	Average Age	Average years work experience	Average time at organization
Females - Generation X	3	35.3	8.3	4 years
Females - Generation Y	5	30.4	6.8	3.2 years
Males – Generation X	2	37.5	16	2 years
Males – Generation Y	6	29.8	7.8	2.75 years

**Table 3: Frequency of Communication Channels Reported when Receiving Information at Work**

	Email	Face-to-face	Phone	Handwritten notes
<b>Total (N=16)</b>	100% (N=16)	18.7% (N=3)	18.7% (N=3)	6.2% (N=1)
<b>Male (N=8)</b>	100% (N=8)	12.5% (N=1)	12.5% (N=1)	0% (N=0)
<b>Female (N=8)</b>	100% (N=8)	25% (N=2)	25% (N=2)	12.5% (N=1)
<b>Generation Y (N=11)</b>	100% (N=11)	27.2% (N=3)	18.1% (N=2)	9% (N=1)
<b>Generation X (N=5)</b>	100% (N=5)	0% (N=0)	20% (N=1)	0% (N=0)
<b>Males from Generation Y (N=6)</b>	100% (N=6)	16.6% (N=1)	16.6% (N=1)	0% (N=0)
<b>Males from Generation X (N=2)</b>	100% (N=2)	0% (N=0)	0% (N=0)	0% (N=0)
<b>Females from Generation Y (N=5)</b>	100% (N=5)	40% (N=2)	20% (N=1)	20% (N=1)
<b>Females from Generation X (N=3)</b>	100% (N=3)	0% (N=0)	33.3% (N=1)	0% (N=0)

related to the purpose of the study and were the two that were the focus of analysis. Questions 18 and 19 focused on added channels and comments. The purpose of these final questions was to ensure that the participants shared all their experiences relevant to the study.

In this section, the most frequent communication channels that are used to receive and send information in the workplace are first identified. Next, the communication channels that the participants prefer to receive and send information from in the workplace are indicated. Then, the communication channels in the workplace that make the participants feel most involved and connected are presented. This is followed by the channels the participants identified as using in the workplace when they want to make others feel involved and connected. Finally, the participants stated which communication channels they would like to see added in the workplace.

Some participants' answers included more than one communication channel per question. Hence, this will yield percentages more than 100%.

**Interview question 12.** What are the most frequent ways of communication you receive here at the organization?

The most frequent communication channel that the participants received information from was email. All 16 participants stated that email was the most frequent channel by which they receive information. Face-to-face was the second most frequent channel. Overall, females were twice as likely to receive information via face-to-face than males were (25% v. 12.5%). Females from Generation Y were 4 times more likely to receive information via face-to-face than females from Generation X (40% v. 0%). Overall, Generation Y respondents indicated receiving information from a wider variety of channels than Generation X respondents (4 channels v. 2 channels). In addition, males from Generation Y indicated receiving information from a wider variety of channels than males from Generation X (3 channels v. 1 channel). The top four answers in each category are displayed in Table 3 (previous page).

**Interview question 13.** What are the most frequent ways of communication you send here at the organization?

One hundred percent of the participants stated that email was the most frequent communication channel they used when sending information in the workplace. Males across both generations indicated the use of email only as the most frequent channel of communication in the workplace. Overall, female respondents indicated a wider variety of most frequently used communication channels than male respondents (5 channels v. 1 channel). Similarly, Generation Y respondents reported a wider variety of channels than Generation X respondents (5 channels v. 2 channels). Female respondents from Generation Y indicated more channels than female respondents from Generation X (5 channels v. 1 channel). The answers of each category are displayed in Table 4.

**Interview question 14.** Which ways of communication do you prefer to receive information from? Why?

The following interview question focused on the communication channel by which the participants prefer to receive information from and the reasons for this. The most common communication channel that participants stated as a preference to receive information from was e-mail. Fourteen out of the 16 (87.5%) participants indicated that their preference for email was because of its archiving features and speed of transmission. F5 stated, "Email is the easiest way of communication. I know what the requirements are and I have the space to reply when I can. I can use it for future reference and especially for record keeping. There is no time limit to access the information. I decide when to reply which is when I have enough time and space." M2 noted, "Email acts as a tracker for data, information, saves information, provides evidence." The notion of utilizing email for its documentation and archiving features was shared by M5, M6, M7, M8, F2, and F5.

Overall, male and female respondents indicated their preference to receive information by email and face-to-face equally (87.5% and 25% respectively). Female respondents across both generations showed preference to the same communication channels (email and face-to-face). Generation Y respondents indicated a preference for phone while Generation X respondents did not (9% v. 0%). Male respondents from Generation Y indicated a wider variety of preference for communication channels by which they receive information from than male respondents from Generation X (3 channels v. 1 channel). The top three answers in each category are displayed in Table 5 (page 18).

**Interview question 15.** Which ways of communication do you prefer to send information from? Why?

The most common channel the participants preferred to send information from was email. Their preference to email was due to its archiving features, accessibility, and speed of transmission. F6 said that using email to send information is "...precise and it is easy to keep everyone in the loop." M5, M6, M8, and F2 also stated the recordkeeping feature of the channel as justification for its use. Female and male respondents preferred to send information using the same communication channels (email, face-to-face, and phone). There was no significant difference in preferences across generation or tenure. Male respondents from Generation Y indicated their preference for face-to-face when sending information while respondents from Generation X did not indicate face-to-face as a preferred channel (40% v. 0%). Respondents who had professional experience of more than 8.8 years showed a higher preference to face-to-face communication than those with professional experience less than 8.8 years (30% v. 16.6%). Female respondents from Generation X indicated preference to using phones when sending information, while female respondents from Generation Y did not (33.3% v. 0%). The top three answers in each category are displayed in Table 6 (page 19).



**Table 4: Frequency of Communication Channels Reported when Sending Information at Work**

	Email	Phone	Face-to-face	Handwritten notes	Letters
<b>Total (N=16)</b>	100% (N=16)	18.7% (N=3)	6.25% (N=1)	6.25% (N=1)	6.25% (N=1)
<b>Male (N=8)</b>	100% (N=8)	0% (N=0)	0% (N=0)	0% (N=0)	0% (N=0)
<b>Female (N=8)</b>	100% (N=8)	37.5% (N=3)	12.5% (N=1)	12.5% (N=1)	12.5% (N=1)
<b>Generation Y (N=11)</b>	100% (N=11)	18.1% (N=2)	9% (N=1)	9% (N=1)	9% (N=1)
<b>Generation X (N=5)</b>	100% (N=5)	20% (N=1)	0% (N=0)	0% (N=0)	0% (N=0)
<b>Males from Generation Y (N=6)</b>	100% (N=6)	0% (N=0)	0% (N=0)	0% (N=0)	0% (N=0)
<b>Males from Generation X (N=2)</b>	100% (N=2)	0% (N=0)	0% (N=0)	0% (N=0)	0% (N=0)
<b>Females from Generation Y (N=5)</b>	100% (N=5)	40% (N=2)	20% (N=1)	20% (N=1)	20% (N=1)
<b>Females from Generation X (N=3)</b>	100% (N=3)	33.3% (N=1)	0% (N=0)	0% (N=0)	0% (N=0)

**Interview question 16.** Of all the internal communications you use, which ones make you feel the most involved and connected to the organization? Why?

Approximately, 87% of the participants stated that face-to-face communication makes them feel the most involved and connected to the organization. Male respondents from Generation Y showed higher preference to face-to-face than male respondents from Generation X (100% v. 50%). Female and male respondents indicated face-to-face and email as the top two channels that make them feel the most involved and connected to the organization (87.5% face-to-face and 25% email). Overall, Generation X reported that the intranet makes them feel involved and connected to the organization, but Generation Y did not (20% v. 0%). Overall, female respondents from Generation Y indicated a wider variety of most involving communication channels than female respondents from Generation X (3 channels v. 1 channel).

Participants primarily stated emotional connectivity as the reason for preferring face-to-face communication. M2 noted face-to-face communication "builds and connects you to people". While F6 noted face-to-face communication, specifically meetings, "Build bridges between employees". F4 also advocated meetings because this mode of face-to-communication addresses the emotional as well as the knowledge and information aspects of engagement, "Everyone on the same page, everyone involved". Table 7 (page 20) shows the results of question 16.

**Interview question 17.** When you want to make others feel involved and connected, which communication channel do you use? Why?

Fourteen out of the 16 (87.5%) participants stated that they use face-to-face communication channels when they want

**Table 5: Most Preferred Communication Channels by which to Receive Information From at Work**

	Email	Face-to-face	Phone
<b>Total</b> (N=16)	87.5% (N=14)	25% (N=4)	6.2% (N=1)
<b>Male</b> (N=8)	87.5% (N=7)	25% (N=2)	12.5% (N=1)
<b>Female</b> (N=8)	87.5% (N=7)	25% (N=2)	0% (N=0)
<b>Generation Y</b> (N=11)	81.8% (N=9)	27.2% (N=3)	9% (N=1)
<b>Generation X</b> (N=5)	100% (N=5)	20% (N=1)	0% (N=0)
<b>Males from Generation Y</b> (N=6)	83.3% (N=5)	33.3% (N=2)	16.6% (N=1)
<b>Males from Generation X</b> (N=2)	2% (N=2)	0% (N=0)	0% (N=0)
<b>Females from Generation Y</b> (N=5)	80% (N=4)	20% (N=1)	0% (N=0)
<b>Females from Generation X</b> (N=3)	100% (N=3)	33.3% (N=1)	0% (N=0)

others to feel involved and connected. Male respondents showed preference to using email when they wanted to make others feel involved and connect, while female respondents did not (37.5% v. 0%). Respondents from Generation X showed higher preference to email usage than Generation Y (40% v. 9%). Similarly, male respondents from Generation X showed a greater preference to email than Generation Y (100% v. 16.6%). Females from Generation X preferred to use a wider variety of communication channels when they wanted to make others feel involved and connected than female respondents from Generation Y (3 channels v. 1 channel). The top three answers in each category are presented in Table 8 (page 21).

The participants in the study explained their preference for using face-to-face communication when they wish to engage others in the organization. M6 noted face-to-face communication is "friendly" and it "show[s] people I care". While M7 noted face-to-face communication provides "a chance to share a friendly conversation with employees not jump quickly into business". Similarly, M3 observed this channel allows employees to "feel closer". F2 observed face-to-face communication provides for "direct interaction" which "give[s] the other person my time which shows them they are important". The participants showed an overall preference for face-to-face communication to take place via meetings. M2 stated

that meetings "Allows you to understand the pulse of the organization". F7 noted meetings "Enhances team spirit to have everyone in the same room discussing the same issue" and F5 asserted, "More commitment happens during meetings".

**Interview question 18.** At work, which channels would you like to see added? Why? For what purpose, to send or receive information?

Participants' answers varied but the face-to-face channel was the top choice. In general, the participants' responses were variations on "more all staff meetings" (for example, M2, M5, M6, M7, M8, and F7). The answers were as follows:

- More face-to-face informal social gatherings
- More visible digital screens
- More email to all staff
- Office allocation that eases communication
- Feedback channels such as surveys
- Social Media
- Face-to-face all staff meetings every month
- Face-to-face knowledge hour

**Table 6: Most Preferred Communication Channels by which to Send Information at Work**

	Email	Face-to-face	Phone
<b>Total (N=16)</b>	93.75% (N=15)	25% (N=4)	12.5 (N=2)
<b>Male (N=8)</b>	87.5% (N=7)	25% (N=2)	12.5% (N=1)
<b>Female (N=8)</b>	100% (N=8)	25% (N=2)	12.5% (N=1)
<b>Generation Y (N=11)</b>	99.9% (N=10)	27.2% (N=3)	9% (N=1)
<b>Generation X (N=5)</b>	100% (N=5)	20% (N=1)	20% (N=1)
<b>Males from Generation Y (N=6)</b>	83.3% (N=5)	40% (N=2)	20% (N=1)
<b>Males from Generation X (N=2)</b>	100% (N=2)	0% (N=0)	0% (N=0)
<b>Females from Generation Y (N=5)</b>	100% (N=5)	20% (N=1)	0% (N=0)
<b>Females from Generation X (N=3)</b>	100% (N=3)	33.3% (N=1)	33.3% (N=1)

**Summary**

The top communication channel that made respondents feel engaged was face-to-face. The channel that respondents employed to make others in the organization feel engaged was also face-to-face. However, the choice was split in the male respondents from Generation X: 50% chose face-to-face and 50% chose email. The most preferred communication channel across all variables to send and receive information was email.

**5: Interpretation of Findings**

This chapter starts with a review of data collection and analysis used to obtain findings from the data. Next in the chapter is a descriptive analysis of the data. The chapter concludes with limitations of this study.

**Methodology and Data Collection Review**

The 16 Emirati participants who were concurrently employed at a federal authority in Abu Dhabi, United Arab Emirates were the primary source of data collected. The data collected from the interview conducted with each participant were supported by (a) foregrounding, (b) member checking of data for accuracy, (c) review of findings by the diverse members of the research team including expertise in management, intercultural communication, Emirati culture, and Human Resource Management, and (d) reference to relevant literature on the areas of employee engagement and internal communication.

The primary data consisted of the participants' perceptions and experiences related to the two questions that anchored this study: (a) which internal communication channels contribute to engaged employees' sense of engagement and (b) how these channels facilitate this. The goal of the interview questions was to identify which communication channels engage employees, which communication channels employees use when they want others to feel involved and connected, and how these channels do this. In particular, the study aimed

**Table 7: Channels Perceived as Most Involving and Connecting**

	Face-to-face	Email	Digital Branding <sup>4</sup>	Intranet
<b>Total (N=16)</b>	87.5% (N=14)	25% (N=4)	6.25% (N=1)	6.25% (N=1)
<b>Male (N=8)</b>	87.5% (N=7)	25% (N=2)	0% (N=0)	12.5% (N=1)
<b>Female (N=8)</b>	87.5% (N=7)	25% (N=2)	12.5% (N=1)	0% (N=0)
<b>Generation Y (N=11)</b>	99.9% (N=10)	27.2% (N=3)	9% (N=1)	0% (N=0)
<b>Generation X (N=5)</b>	80% (N=4)	20% (N=1)	0% (N=0)	20% (N=1)
<b>Males from Generation Y (N=6)</b>	100% (N=6)	16.6% (N=1)	0% (N=0)	0% (N=0)
<b>Males from Generation X (N=2)</b>	50% (N=1)	50% (N=1)	0% (N=0)	50% (N=1)
<b>Females from Generation Y (N=5)</b>	80% (N=4)	40% (N=2)	20% (N=1)	0% (N=0)
<b>Females from Generation X (N=3)</b>	100% (N=3)	0% (N=0)	0% (N=0)	0% (N=0)

to determine the reasons for the selection of communication channels that made the participants feel most involved and connected to the organization (i.e., engaged).

In order to elicit the greatest degree possible accuracy, breadth, and depth of understanding regarding the topic of the study (despite of the socio-cultural constraints on data collection), the participants described actual communication channels that were being used in the organization and explained the aspects of these channels that contribute to their sense of engagement. Participants were asked to recall (1) communication channels that made them feel involved and connected and (2) communication channels they used when they wanted others to feel involved and connected. The research team employed one-on-one, face-to-face, semi-structured interviews over four-weeks to collect the data. During the interviews, the

research team listened for words and phrases that described how each channel contributed to the participants' sense of engagement.

For the purpose of this study, employee engagement was defined as "the emotional commitment the employee has to the organization and its goals" (Kruse, 2012, p. 1). It is this frame that guided the analysis of data.

### Analysis

This study aimed to determine which internal communication channels contribute to engaged employees' sense of engagement and how these channels do this. Participants found face-to-face and email to be the primary channels that contribute to their sense of engagement in the organization. However,



**Table 8: Communication Channels Employed by Respondents to Engage Employees**

	Face-to-face	Email	Phone
<b>Total</b> (N=16)	87.5% (N=14)	18.7% (N=3)	6.2% (N=1)
<b>Male</b> (N=8)	75% (N=6)	37.5% (N=3)	0% (N=0)
<b>Female</b> (N=8)	100% (N=8)	0% (N=0)	12.5% (N=1)
<b>Generation Y</b> (N=11)	90.9% (N=10)	9% (N=1)	0% (N=0)
<b>Generation X</b> (N=5)	80% (N=4)	40% (N=2)	20% (N=1)
<b>Males from Generation Y</b> (N=6)	83.3% (N=5)	16.6% (N=1)	0% (N=0)
<b>Males from Generation X</b> (N=2)	50% (N=1)	100% (N=2)	0% (N=0)
<b>Females from Generation Y</b> (N=5)	100% (N=5)	0% (N=0)	0% (N=0)
<b>Females from Generation X</b> (N=3)	100% (N=3)	0% (N=0)	33.3% (N=1)

these contribute to the participants' sense of engagement in different ways: face-to-face communication was found to support emotional connection to the organization whereas written channels (specifically email) were found to support organizational knowledge and information. Both emotional connection and organizational knowledge have been determined to be essential drivers of employee engagement (e.g., CIPD, 2012; Gallup 2008, 2010, 2012).

**Emotional connection.** The participants in the study indicated that face-to-face communication promoted emotional connection (engagement) with the organization (N=87.5%). The perception that face-to-face communication promotes connection and relationship-building amongst interactants is congruent with Media Richness Theory (MRT) and in agreement with Reinsch and Beswick (1990) who posited rich channels support social relationships. Similarly, the data from this study are supportive of Social Presence Theory (SPT). SPT states that some channels better support social relationships between interactants better than others (Short, William, & Christie, 1976) and that interactants value a channel according to the psychological closeness it affords the interactants,

as such, when a relationship is important, richer channels should be used. Berk and Clampitt (1991) supported the use of oral channels for relational messages and written channels for content-oriented messages. Kupritz and Cowell (2011) noted media higher in social presence are vital to social tasks such as building relationships.

Overall, 87.5% of the respondents indicated that face-to-face communication channels make them feel most involved and connected to the organization. For example, M2 stated face-to-face communication: builds and connects you to people" while F6 noted meetings "[b]uild bridges between employees". Similarly, 87.5% indicated that they employed face-to-face channels when they wanted to make others feel involved and connected. The rationale for this phenomenon was succinctly explained by F2 who noted that "[d]irect interaction" gives "the other person my time which shows them they are important".

**Organizational knowledge and information.** The participants in the study indicated written channels (specifically email) supported the organizational knowledge and informa-

tion aspect of engagement (Hara, Shachaf, & Hew, 2007). Overall, 87.5% of the respondents stated that email was their preferred communication channel when receiving information at work and 93.75% of the respondents stated that email was their preferred communication channel when sending information at work. M3 said, "Receiving email makes me feel I am a part of the loop and organization. Even if I'm not physically there, information reaches me." This is congruent with both Media Richness Theory and Social Presence Theory.

**Culture.** O'Neill (2011) stated that culture "shapes perceptions of channels and channel features and consequently selection and use" (p. 75). A study by Lind in 2001 concluded, "Communication channel richness does appear to have cultural/gender differences which in turn lead to differences in channel usage" (p. 238). The data in this study supported these assertions.

**Generation.** Walker (2009) asserted, "Gen Y prefer to communicate synchronously and interactively" (p. 3) and as such have a preference for face-to-face communication. Research stated that Generation Y employees prefer more direct communication (Johnson Controls, 2010).

The data from this study support these findings. The data from this study showed differences between Generation X and Generation Y with regard to channel preferences. 80% of Generation X felt face-to-face was the channel that made them feel most involved and connected with the organization whereas 99.9% of Generation Y felt this way about face-to-face communication. Similarly, when participants send communications with the intent of making others in the organization feel connected and involved 90.9% of Generation Y but only 80% Generation X felt face-to-face was the most appropriate channel. When receiving organizational information 81.8% of Generation Y and 100% of Generation X indicated a preference for email. These figures support previous research that Generation Y demonstrates a preference for interactive communication channels such as face-to-face. However, when sending organizational information these assertions breaks down: 99.9% of Generation X and 100% of Generation Y indicated a preference for sending organizational information via email. This contradicts the findings that Generation Y has unique communication channel preferences and that it prefers face-to-face communication.

**Gender.** The data from this study show males and females equally (87.5%) prefer to receive organizational information via email. They also concurred with their second (face-to-face) and third (telephone) channel rankings. Similarly, both male and female participants equally (87.5%) indicated face-to-face as the channel they feels most engages them followed by email (25% for both groups). This is congruent with Gefen and Straub's (1997) study of three nations (Japan, USA, and Switzerland) which found that female and male perceptions of email varied but not their use. When sending organizational information there was also a large degree of agreement between males and females. One hundred percent of males and 87.5% of females preferred to use email to accomplish the task; however, 25% of each group indicated a preference for

face-to-face and 12.5% of both groups preferred telephone. Males and females diverged in their responses to the channel they employ to make others in the organization feel involved and connected: 100% of females but only 75% of males ranked face-to-face first.

**United Arab Emirates.** The UAE has been noted to be a collectivist culture (Abdalla & Al-Humoud, 2001). It has also been identified as a high-context communication culture (Hall, 1959). Thomas (2008) noted these two cultural aspects are frequently linked, "[C]ollective cultures are 'High Context'" (p. 86).

The data from this study support the assertion that "groups from collectivist cultures demonstrate a greater preference for rich and high social presence channels" (O'Neill, 2011, p. 74). M3 said, "For us Arabs, face-to-face communication makes us feel closer to people and there will be no chance for misunderstandings. With phone calls, there are cultural barriers, especially with women, it makes sense and I totally respect that."

## Conclusion

The link between employee engagement (EE) and internal communication (IC) has been well established. Research has shown internal communication is a key driver of employee engagement (MacLeod & Clarke, 2009; CIPD, 2012; Ruck, 2012). According to Towers Watson (2010), internal communication is one way to connect an organization to its employees and also to connect employees who are generationally and culturally different. Bleeker and Hill (2013) asserted that good internal communication in an organization can motivate and engage employees because IC delivers allows employees to understand what changes are happening and how they should respond (i.e., emotional connection) and provides regulation and compliance because employees will be aware of all the rules and regulations (i.e., organizational knowledge and information). The 2012 Towers Watson's Global Workforce study corroborated international studies finding communication to be one of the top five drivers of engagement in the UAE.

## Limitations and Future Research

All studies have limitations and this study was no different. The most prominent limitations of this study were (a) the use of participant recall, (b) the small sample size, (c) limited academic literature available on employee engagement and internal communications in the UAE, (d) the researchers' inability to use multiple data collection methods, (e) socio-cultural limitations regarding the presentation of some data and analysis, and (f) lack of Generation X participants. In addition, the study and findings represent experiences from Emiratis in only one organization in the UAE.

To better understand the link between employee engagement and internal communication in the UAE, future research may wish to (a) include a larger number of participants, (b) explore the topic at different levels of the organization to see if communication channels that are perceived as engaging differ, (c) include expatriate employees in the organizations, (d)

replicate the study in Arabic, and (e) include participants from different organizations.

### Implications for Practice

The study aimed to determine which internal communication channels contribute to engaged employees' sense of engagement and how these channels do this. Participants found face-to-face and email to be the primary channels that contribute to their sense of engagement in the organization. However, these contributed to the participants' sense of engagement in different ways: face-to-face communication was found to support emotional connection to the organization whereas written channels (specifically email) were found to support organizational knowledge and information.

This study makes several contributions to the area of employee engagement and internal communication. First, it adds to the existing literature on employee engagement and internal communication. Secondly, it adds to the scant literature on employee engagement and internal communication in Arab contexts. And thirdly, it offers insight for expatriate employees working with Emiratis.

## Appendix

### Appendix A: Interview Questions

1. What is your job title? If you feel comfortable with sharing this information, what is your grade level?
2. How long have you been working at this organization?
3. What is your highest level of education? And at which institution?
4. What was the language you were educated in during your highest level of education?
5. When did you graduate (from your highest level of education)?
6. What are the total years of your professional experience?
7. How many places have you worked in?
8. What are the different ways of communication that you use to send information in your day-to-day life?
9. What are the different ways of communication that you use to receive information in your day-to-day life?
10. What are the different ways of communication that you use to send information in your job?
11. What are the different ways of communication that you use to receive information in your job?
12. What are the most frequent ways of communication you receive here at the organization?
13. What are the most frequent ways of communication you send here at the organization?
14. Which ways of communication do you prefer to receive information from? Why?
15. Which ways of communication do you prefer to send information from? Why?
16. Of all the internal communications you use, which ones make you feel the most involved or most connected to the organization? Why?
17. When you want to make other people feel involved and connected, which communication channel do you use and why?
18. At work, which channels would you like to see added? Why and for what purpose, send/receive information?
19. Is there anything we didn't talk about today that you think we should? Are there any questions that you want us to go back and revisit?

### Footnotes

1. Consulting firms that specialize in employee engagement generally agree that one of the most common and effective ways of measuring employee engagement drivers is through opinion surveys of employees.
2. Results of the study were not published.
3. Although data was collected on total years of work experience and tenure with the target organization, this information is not included in the thesis as analysis yielded no findings of significance in themselves or in relation to the study.
4. Digital branding refers to when the organization unifies employees' computer monitor and phone backgrounds.

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# Corporate Giving in the Health Sector: A Study on the Malaysian Companies

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## Abstract

Corporate giving represents the philanthropic activities that companies perform as voluntary initiatives. All over the world, companies are contributing in several sectors like health, sports, education and others. In many ways, these activities help in mitigating the social problems and meeting the necessities. This research is based on this issue. The main objective of this research is to examine the nature of contribution of the Malaysian companies in the health sector. In order to achieve this objective, the research conducted content analysis of the annual reports of 200 sample companies selected through random sampling. In most of the cases companies disclose their year-long activities in the annual reports. From these reports the researchers identified the main activities that the companies have performed in order to help the health sector.

**Key words:** Corporate giving, health sector, Malaysian companies

## 1. Introduction

Businesses deal in the society. That is why, just like the individuals, businesses are also considered as social units. In order to live and survive in the society, all individuals have to behave in a socially responsible manner. Firstly, they have to ensure that their activities are not becoming harmful to the society. Secondly, they should contribute to the welfare and development of the society. It will ensure the development of the society. These days, it is said that business organizations, just like individuals, should also behave in a socially responsible manner.

There was a time when it was thought that businesses have only one objective and that is to earn profit. In those days, businesses used to be run based on a shareholders' perspective. That means, it was thought that if the purpose and interest of the shareholders (shareholders' profit and wealth maximization) are fulfilled, the company has performed its responsibility well. But over the years, this thought was revised and extended. The contemporary business organizations follow the stakeholder approach. This approach focuses on multiple stakeholders rather than only the shareholders. In stakeholder approach it is believed that other than shareholders there are many groups that are affected from the activities of business. These groups include employees, managers, media, environmental groups, government and general public. So, businesses affect and get affected by multiple stakeholder groups.

Another important issue is that these days, businesses get affected by a greater 'public visibility'. It is said that these days businesses live in a 'glass house' (Hossain, 2004). It means, whatever they do, it becomes visible to the public. The main reasons for this high public visibility of business are the media, government and several public interest groups. There is no doubt that business is one of the vehicles that lead us to development. But sometimes this development comes with several costs. For example, we know that over the years the activities of businesses have helped improving our lives in many ways. But at the same time it is also true that because of business activities (specially manufacturing of products) the world has seen huge environmental degradation. So, it can be said that business was one of the causes of worldwide environmental pollution. Moreover, social activists also identified that business organizations around the world are also involved in practicing gender inequality, racial and ethnic inequality and others. Therefore, it can be said that in many ways, businesses are contributing to several social problems. That is why there is a continuous urge from the part of the society to keep the business under continuous surveillance so that their activities do not affect the society in a harmful manner. It is expected that corporate houses should act in a socially responsible manner.

Other than this it is also believed that businesses have enough money and human resources that can be employed for social welfare and development. Like the individuals, businesses can also get themselves involved in philanthropic activities that can contribute in social development. Many companies around the world are involved with these kinds of activities. They are contributing in the health and education sector, environmental preservation, poverty alleviation and other important areas.

Because of these issues, the term corporate social responsibility has become very popular these days. The corporate social responsibility activities have two aspects. First, it should ensure that the activities of the companies do not create any direct or indirect harm to the society. Secondly, corporations should get themselves involved in several philanthropic activities that ensure social development. These philanthropic activities are generally termed as 'corporate giving'.

Like many other business organizations around the world, Malaysian corporations are also going for social responsibility activities. They are contributing to mitigate several problems that exist in the society through these Corporate Social Responsibility (CSR) activities. The issue of health and medical care, in many ways, are regarded as a social problem these days. That is why companies all over the world try to contribute to this particular sector. This research is based on this issue. The main objective of this research is to examine the nature of contribution of the Malaysian companies in the health sector. In order to achieve this objective, the research conducts content analysis of the annual reports of 200 sample companies randomly selected from the list of Bursa Malaysia Main Market.

In most of the cases companies disclose their year-long activities in the annual reports. From these reports the researchers

identified the main activities that the companies have performed in order to contribute to the health sector. In most cases, research on CSR mainly takes a holistic approach and identifies the several issues/areas that got importance from the companies. A detailed investigation on the corporate contribution in a particular sector (like health, sports, education etc.) was rarely done. In past, Hossain and Diah (2014) conducted research on the corporate contribution in the health sector by Bangladeshi banking companies through conducting the case studies of some banks. Though this was a very short research, it portrayed a picture of the CSR activities of the banking companies in the health sector in a less developed economy.

This research looks into the same issue in the context of Malaysia in a more detailed manner. On the basis of the information in the annual reports this research conducts a survey on 200 Malaysian companies in order to identify their nature of contribution in the health sector. It is expected that this research will help to identify the contribution of the corporate sector in the health sector of a developing economy - Malaysia. The research will help to identify the strategies the companies are following in order to contribute to the health sector.

The next section of the article describes the objectives of the research. Then a detailed literature review on the corporate social responsibility practices of the Malaysian companies was conducted. Then the theoretical perspectives of this research are discussed. After that the methodology of the research is presented. Then the findings are presented along with the analysis.

### Objectives of the Study

The objectives of this research are twofold:

1. To identify the nature of contribution to the health sector (for example, contribution to individuals, contribution in infrastructure development, donation, campaigning etc.) of Malaysia.
2. To identify the main diseases, disabilities and other medical problems that are getting more importance from the corporate sector of Malaysia.

### Literature review

The research on CSR activities from the context of Malaysian companies is not anymore a new issue. Over the last few decades researchers have taken this issue very seriously and published several articles on this. This section of the proposal summarizes the findings of some of this research.

Hamid and Atan (2011) examined the CSR disclosure practices by the Malaysian telecommunication firms. They concluded that CSR disclosure increased between the periods 2002 to 2005. Lo and Yap (2011) found out the main areas in which the Malaysian companies are practicing CSR activities. They found that most of the large Malaysian companies are involved with CSR activities. Some of the areas that got enough importance from these companies are employee welfare, customer com-

plaints, product/service quality, product safety, donation to welfare organizations, warranty, contributions to sports, culture, education, low-income housing, public amenities, handicapped individuals and crime prevention. The authors concluded that the companies should be more sincere with their CSR activities.

Yaacob and Azmi (2012) examined the social responsibility practices of the Malaysian entrepreneurs from the Islamic perspective. They examined this with the help of Maqasid al-Shariah aspects. The researchers found that there is a significant relationship between being a 'Muslim entrepreneur' and the social responsibility practices performed by them.

Mustafa, Othman and Perumal (2012), in a quantitative study, attempted to identify the link between corporate social responsibility and performance of the Malaysian companies. In this research, they found a significant relationship between CSR and company performance.

Yam (2012) examined the CSR practices of the companies in Malaysian property industry. According to their CSR performances, the companies were classified as 'leading', 'average', and 'room to improve' (Yam, 2012: 9). Four companies (SP Setia, Sime Darby Property, Sunway City and Sunrise) were characterized as leading companies in CSR activities. Two companies showed average performance (IOI Properties and Mah Sing Group). Four companies were categorized as 'room to improve' (IGB Corp, I&P group, Bandar Raya Developments and IJM Land).

The research of Raman, Lim and Nair (2012) examines the impact of CSR activities on customer loyalty. The research was conducted on the leading electronic manufacturers in Malaysia. The study found that customer loyalty becomes stronger when CSR activities are higher. The study also shows that if the CSR investment is higher, there is a chance of higher financial performance. CSR can be proved as a good strategy of getting competitive advantage in the industry.

In a similar research, Hasan, Nareeman and Pauline (2013: 63) examined the 'impact of CSR practices on customer satisfaction and retention'. The research was done from the context of the foreign Multinational Corporations (MNCs) in Malaysia. They found that CSR is positively and significantly related to customer satisfaction and retention. The findings were similar to Raman, Lim and Nair (2012).

From these research results it can be understood that Malaysian companies (mainly the bigger companies) are involved with CSR activities. The companies are investing in several important sectors that are important for social change and development. Researchers also found that customers are also aware of the CSR issues and that is why generally the firms that perform more CSR activities have more loyal customers. Though all this research highlighted different aspects of the CSR activities of the companies of Malaysia, none of them focus on the contribution of the companies in specific social sec-

tors like education, health, sports, arts and culture and others in a detailed manner. This proposed research is an attempt to minimize this research gap. This research concentrates on the nature of corporate contribution in the health sector of Malaysia in the form of CSR.

### Theoretical Perspectives

Legitimacy theory and stakeholder theory are two of the relevant theories that explain why the business organizations go for corporate social responsibility activities. This section of the article presents short descriptions of these two theories.

In general, the term stakeholder represents the groups that get affected by the affairs of the business. It was mentioned earlier that these days the business organizations have to deal with multiple stakeholders. Not only the shareholders but also various other parties get affected by the activities of the organizations. That is why companies have to look after the interests of all these stakeholders.

Moreover, organizations work in the society. In order to deal and survive within the society they have to legitimize their works in the eyes of the society. They cannot perform any activity that is against the interests, values and beliefs of the society. Any act that goes against the values, beliefs and interests of the society is considered as illegitimate. That is why the companies have to act in such a way that their activities look legitimate to the stakeholders. In order to prove their activities as legitimate, companies go for performing corporate social responsibility activities. This can be considered as an impression management tool. When the stakeholders see that the company is careful to the society and is fulfilling the needs of the society in various manners, legitimacy is created.

### Methodology

This research is based on the secondary data. The research conducts content analysis of the annual reports of the companies listed in Bursa Malaysia. From the Main Market list of Bursa Malaysia, 200 companies were taken as sample through random sampling. In order to understand how companies conceptualize corporate giving, data is analyzed using thematic analysis.

Annual reports were collected from the web site of Bursa Malaysia. All these annual reports were of the year 2013. In general, the annual reports of the companies can be divided into two parts: (1) the narrative part where the company describes its year-long activities in a narrative format and (2) the financial information part where the company presents its financial statements.

The information on corporate social responsibility is generally presented in the narrative part. It has to be mentioned here that it is not mandatory for the companies to report on the corporate social responsibility issues. But these days, most progressive companies report on these issues in order to gain

legitimacy and manage impression. The content analysis was conducted on these narrative parts of the annual reports.

One limitation of this study is that it is based on the annual reports only. In some cases the companies might have not reported the activities that they have performed. Moreover, in some cases disclosure on corporate social responsibility was found inadequate. In these cases the contribution to the health sector could not be identified.

The next section of the article presents the findings of this study.

### Findings and Analysis

Out of 200 sample companies, 81 (40.5%) companies reported on their activities related to at least one health issue. The several kinds of health related activities that the companies performed include:

1. Activities related to occupational safety and employee health;
2. Contribution to handicapped/disabled and autistic people in the society;
3. Arranging blood donation camps;
4. Promoting traditional medicine;
5. Fitness campaigns;
6. Nutrition campaigns;
7. Contributions/donations for the following diseases:
  - a. Cancer;
  - b. Diabetes;
  - c. Blindness;
  - d. HIV;
  - e. Parkinson;
  - f. Kidney disease;
  - g. Heart disease;

Table 1 presents a summary of all these activities. It can be seen that occupational safety and employee health got the highest importance from the sample companies. Other than that companies also focused on issues related to handicapped/disabled/autistic people and blind people.

It can be seen from Table 1 and Figure 1 that out of 200 sample companies, 68 (34%) companies reported that they are taking measures for occupational safety hazards and employee health issues. According to the data of the sample companies, this issue got the highest importance from the Malaysian corporate sector. Though this issue cannot be directly linked to corporate giving, this is one of the health concerns that received enough importance from the Malaysian companies.

Companies also mentioned about providing their employees with health insurance and regular free (sometimes compulsory) medical check-up facilities. Some examples of corporate reporting on this issue are presented in Table 2 (page 34):

Workplace safety issues have become a burning question all over the world. Not ensuring occupational safety is considered as human rights violation. In many cases companies have to face legal problems in relation to this issue. It can be said that because of these reasons, the issues like occupational safety and employee health got the highest importance from the corporate sector.

Out of 200 companies, 15 (7.5%) reported that they have arranged blood donation camps. Some examples of the corporate reports on this issue are presented in Table 3 (page 35).

Other than these two issues, working for handicapped/disabled/autistic people also got importance from some Malaysian companies. Out of 200 sample companies, 9 (4.5%) conducted their corporate social responsibility activities in this area. Examples of some of these corporate reports are presented in Table 4 (page 35).

It becomes clear from these examples that these companies are mainly giving importance on the teaching and training of handicapped and disabled people in the society. In many ways, the main focus group here is the children. Table 5 focuses on corporate social responsibility activity related to autism. It can be seen from these examples that companies mainly paid donations to the organizations that deal with autistic people.

Some of the companies conducted corporate social responsibility activities on dealing with several diseases like heart disease, HIV, Parkinson, kidney disease, diabetes, cancer and some others. Some examples of the corporate reports on this issue are presented in Table 6. (page 36)

The corporate houses of Malaysia also reported on some other activities that they performed in relation to the corporate social responsibility activities in terms of health related matters. Companies conducted campaigns on nutrition issues. One company reported on their activity of campaigning for traditional medicine. Some companies were also engaged in fitness matters. Some examples are presented in Table 7 (page 37). In this table, example (14) is related to company activities related to nutrition campaign. Examples (15) and (16) are related to corporate social responsibility activities in relation to fitness. Example (17) is related to campaign for Chinese traditional medicine.



**Table 1: The Health Related Corporate Social Responsibility Activities by the Malaysian Companies**

Health Issues	No. of Companies (n=200)	Percentage in the sample
Occupational safety and employee health issues	68	34.0%
Activities related to handicapped/disabled/autistic people	9	4.5%
Blood donation camps	15	7.5%
Campaigining traditional medicine	1	0.5%
Fitness camps	2	1.0%
Nutrition campaigns	1	0.5%
Diseases:		
a. Cancer	2	1.0%
b. Diabetes	2	1.0%
c. Blindness	5	2.5%
d. HIV	1	0.5%
e. Parkinson	1	0.5%
f. Kidney	2	1.0%
g. Heart	1	0.5%

Figure 1 presents a graphical representation of Table 1.

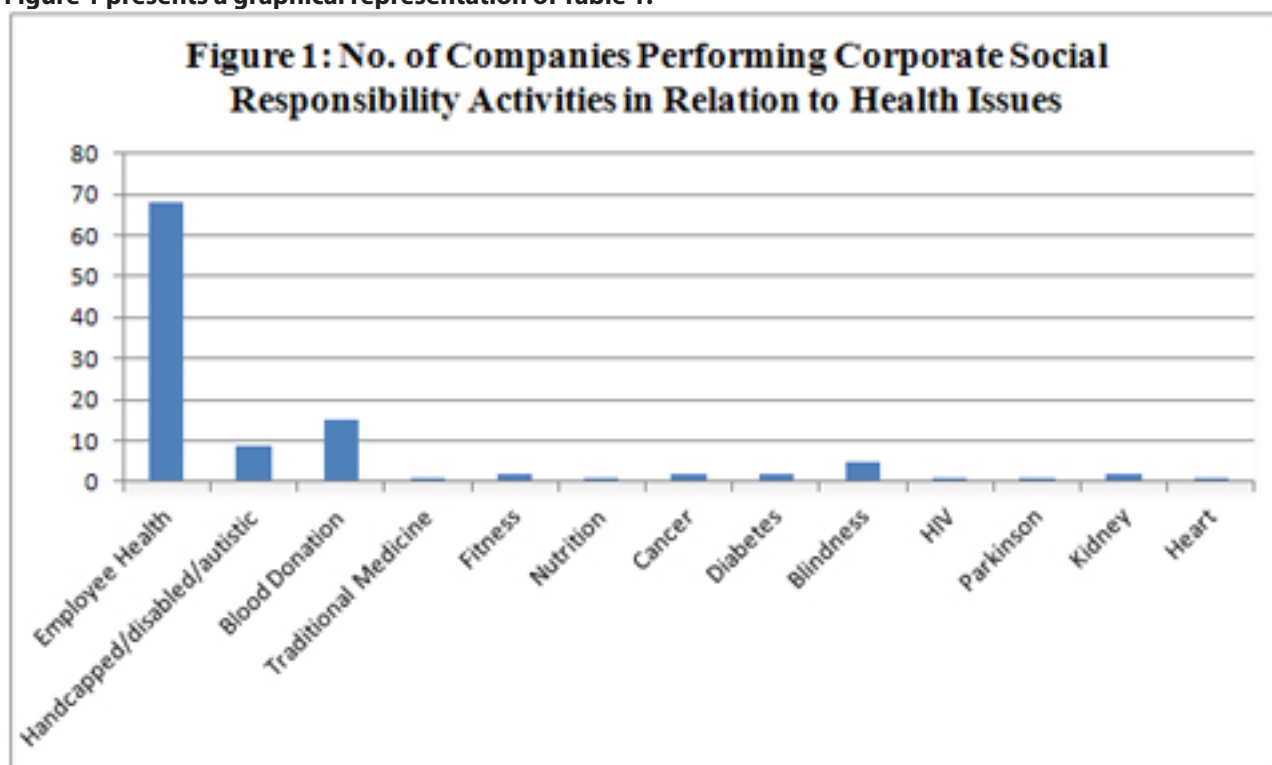


Table 2:

**Example 1:**

"Creating a safe working environment and ensuring adherence to safety practices is also of the paramount importance to the Group. The Group's Occupational Safety and Health Policy are implemented to ensure that the safety and health of all employees at the workplace is not compromised. As part of our commitment to provide a safe workplace, we regularly carry out health and safety programmes such as fire drills, safety checks on equipment, first aid training, and plant evacuation exercises". (ABRIC Berhad, Annual Report 2013, p. 36).

**Example 2:****Safety and Health**

"The safety of our people is imperative to our operations. As a safety first entity, the Group actively and continuously seek out a safety first mind-set in its operations. We ensure their well-being by observing strict safety and health standards in our workplace through the following initiatives:

- Setting up a Safety & Health Committee for assisting in the development of safety & health rules and systems, carry out programs such as fire drills, safety and health talks as well as evacuation exercises at the plant to create awareness and to instill consciousness within its workforce;
- Safety wear is provided to relevant employees to reduce the consequences of serious accidents; and
- Enforcement of safety practices in all aspect at all time". (A-RANK Berhad, Annual Report 2013, p. 29)

**Example 3:**

"The Group strives to forge a safe working environment and promotes healthy work practices for all levels of staff. Various training courses and awareness programmes are carried out to promote collective responsibility amongst staff and training courses are carried out to ensure continuous improvement of safety and health practices. The wellbeing of our staff is critical to the Group. We have a Health and Safety Committee to ensure that the Company complies with the Occupational Safety and Health Act 1994". (Advance Synergy Berhad, Annual Report 2013, p. 32)

**Discussion and Conclusion**

The objective of this research was twofold. Firstly, in this research an attempt was taken to identify Malaysian companies' nature of contribution in the health related issues. Secondly, the research identified the different kinds of medical problems that get importance from these companies.

In terms of the nature of contribution, through the survey done on the annual reports of the Malaysian companies, it was found that these companies are conducting corporate social responsibility activities in relation to health issues. It can be seen from the examples presented in this article that most of the Malaysian companies perform these health related corporate social responsibility activities in the form of donation to several non-profit social welfare institutions.

Other than that they are also getting themselves involved in health related campaigns. So donation and campaigning are the two main activities that they are performing in this case.

It was seen that these companies are focusing on diverse kinds of diseases and medical issues. They set their own priority and choice and work on that issue.

It was found that companies are concerned about the safety requirements of the employees. Most of the companies reported on this issue. Though this cannot be considered as corporate giving, it is a part of corporate social responsibility as this kind of activity reduces the possible harm and health hazards of the employees.

Table 3: Corporate Reporting on Blood Donation Camps

**Example 4:**

“Driven by the belief that CSR is a concept that has to be embraced group wide, ABM Fujiya encourages its employees to play a proactive role in supporting the community and environment. Our employees volunteered their time to organize for blood donation campaign and qualified employees also *donated their blood*. Apart from saving valuable lives, *the blood donation campaign* also aims at increasing public awareness and encourages more people to come forward and donate blood. These are all beyond monetary contributions and have made significant and positive impact on the community”. (ABM Fujiya Berhad, Annual Report 2013, p. 12).

**Example 5:**

“We also carried out *a blood donation campaign* amongst our employees in August 2013 as part of the Group’s contribution towards the Malaysian Blood Bank. A total of 21 workers participated in the campaign”. (Farm’s Best Berhad, Annual Report 2013, p. 25).

**Example 6:**

“Apart from this, our staff and dealer’s representatives have been very responsive and generous during our blood donation campaigns aimed at providing much needed *blood for the blood bank*”. (HWANG-DBS (Malaysia) Berhad, Annual Report 2013, p. 35).

\*Highlighting was done by the authors

Table 4: Corporate Reporting on the Activities Related to Handicapped/Disabled People

**Example 7:**

“Creating employment and job opportunities are part of its roles the Company plays in the community in which it operates. It gives priority to local people particularly fresh graduates/school leavers and unskilled workers. It has also provided opportunities for *employment to the handicapped* and less privileged people”. (Advanced Packaging Technology (M) Berhad, Annual Report 2013, p.12).

**Example 8:**

“We visited Persatuan Kanak-Kanak Istimewa Kajang Selangor (PKIK), a home for special children located on the fringe of Kajang Town Centre. It is a special learning centre that provides special learning programmes for *children with learning disabilities* (such as Down Syndrome, ADD, etc)”. (APEX Equity Holdings Berhad, Annual Report 2013, p.34).

**Example 9:**

“Center for Raising Orphans and Disabled Children Located in Bien Hoa City, Dong Nai Province, Vietnam, the center provides shelter for orphans and *disabled children*. At the center, the children are given education and have their everyday needs taken care of”. (Furniweb Industrial Products Berhad, Annual Report, 2013, p. 22).

\*Highlighting was done by the authors



Table 5: Corporate Reporting on the Activities Related to Autism

**Example 10:**

"On top of this, we would continue to *contribute financially* to their cause on annual basis to ensure that the down syndrome and *autistic community* get their due care and attention through our contributions". (Globetronics Technology Bhd., Annual Report 2013, p. 21).

**Example 11:**

"We also *donate* to schools, underprivileged individuals, non-profit charitable organizations and support social activities or projects. The beneficiaries include the Association of Resource and Education for *Autistic Children* (Penang),.....". (HWANG-DBS (Malaysia) Berhad, Annual Report 2013, p. 35).

\*Highlighting was done by the authors

Table 6: Corporate Reporting on the Activities Related to Dealing with Different Diseases

**Example 12:**

"We provided cash donations to these organisations : Yayasan Jantung Malaysia, *Melaka Cancer Society*, Persatuan Damai Orang Kurang Upaya Malaysia, Persatuan Orang Cacat Anggota Malaysia, Persatuan *Diabetik Malaysia* and Yayasan Sultan Idris Shah". (Apex Healthcare Berhad, Annual Report 2013, p. 7).

**Example 13:**

"The Group plays its role as a socially responsible corporate citizen in the community through sponsorship/donation to various organizations during the year. Of importance are highlighted as follows:-

- 1) Sponsorship and participation in the "Technical Leadership Symposium for E & E" hosted by USAINS for RM 8,000.
- 2) RM10,000 donation to Penang Down Syndrome Association via Star Walk "Walk With Us".
- 3) Contribution to refurbishment of Police Service Centre in Phase 4 of Free Industrial Zone, Penang.
- 4) *"Walk for Sight and Sound" programme organized by St. Nicholas Home for the Blind.*
- 5) Partnership with KDU Penang (Information Technology) to provide internship to their IT students". (Globetronics Technology Bhd., Annual Report 2013, p. 20).

It was mentioned earlier that corporate social responsibility, in many ways, can be considered as an impression management tool for the companies. While issues like occupational safety and employee health matters reduces the possibility of future legal actions against the company, contribution to different health and medical issues (like physical disability, autism, heart disease, HIV, Parkinson, diabetes etc.) help the companies to build an image of 'good corporate citizens' in the eyes of the society.

This study is exploratory in nature. Though many other researchers identified the main corporate social responsibility activities performed by Malaysian companies, most of them have taken a holistic approach. In this study an attempt was made to look into a particular corporate social responsibility issue (health) in details. The focus of the study was only to identify the nature of corporate contribution in the health care sector. The study does not measure the extent of corporate contribution to the health sector.



Table 7: Corporate Reporting on the Activities Related to Nutrition, Fitness and Campaign for Traditional Medicine

**Example 14:**

"Locally, Dutch Lady Malaysia aims to continue our efforts in combating obesity and nutrient deficiency by ensuring that our products are responsibly manufactured, healthy and available in various choices and portion sizes. We have also reduced the sugar content in our products and constantly looked at ways in educating our consumers on healthy eating and lifestyle and emphasising the importance of sports and exercise. This is in line with our mission of *"Helping Malaysians move forward in life with trusted dairy nutrition"*. (Dutch Lady Milk Industries Berhad, Annual Report 2013, p. 31)

**Example 15:**

"In addition, within this project, an open neglected area within the school compound was transformed into a *fitness Park* and named as "Taman Kecerdasan ALCOM" or ALCOM's Fitness Park". (Alluminium Company of Malaysia Berhad, Annual Report 2013, p. 51).

**Example 16:**

"To promote a healthy and positive lifestyle among employees a special *Yoga Class* for staff is conducted on every Tuesday after working hour. This class is for staff new to Yoga to learn basic poses breathing awareness, yogic principles of body and its movements". (Apex Equity Holdings Berhad, Annual Report 2013, p. 32).

**Example 17:**

"Golden Horses Health Sanctuary which represents Country Height's Health Division, has conducted several charity events in 2013 including HalFest '13 and Malaysia Sport Trend and Game Expo at MIECC, Healthylife 2013 Exhibition at Mid Valley, offering free neck and shoulder massage. They also hosted a *Traditional Chinese Medicine (TCM) Charity Day*, offering the public with free TCM treatments including acupuncture, cupping and localised tuina – complete with *complimentary Chinese medication*". (Country Heights Holdings Berhad, Annual Report 2013, p. 33).

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# Antibiotics Resistance of Bacterial Biofilms

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## Abstract

Biofilms are microorganism communities that get attached to a surface. It is evident through various research that cells grown in a biofilm express distinct properties from that of planktonic cells. One such property which is of high significance is an increased resistance to antimicrobial/ antibiotic agents. Bacterial biofilms are a cause of chronic infections worldwide because of their increased antibiotic tolerance. Their resistance to the antibiotics is due to mutation, resistant phenotypes, adaptations to stress, quorum sensing, stratified activity, nutrient gradients, oxidative stress, failure of antibiotic penetration and heterogeneity. Thus in order to control the bacterial infections caused by these biofilms, there is a need of novel drug delivery approaches and enhanced therapeutic use of quorum sensing inhibitors.

**Key words:** Biofilms, antibiotic resistance, quorum sensing, quorum sensing inhibitors

## 1. Introduction

A biofilm is a complex structure that adheres to surfaces regularly in contact with water. Microorganisms secreting mucilaginous protective coating in which they are encased usually form biofilms. Generally colonies of bacteria and other microorganisms such as fungi, yeasts and protozoa form biofilms. Biofilms generally form on liquid or solid surfaces in addition to soft tissues in living organisms. Thus they show aspects of both liquids and solids (much similar to slug slime) and come under a category named "viscoelastic". Conversely, as biofilms become scaled with calcium deposits or rust or collect sediment they become more like a brittle solid and less fluid. Typically biofilms show considerable resistance to conventional disinfection methods. Examples of biofilms include dental plaque, algal mats on water bodies and the slimy coating that fouls pipes and tanks. Van Leeuwenhoek was the first to observe microorganisms on tooth surfaces by making use of his simple microscopes and thus was the one who made the discovery of microbial biofilms. Over the years several other scientists studied biofilms including H. Heukelekian and A. Heller in 1940 and C. E. Zobell in 1943 however detailed assessment of biofilms had to await the development of the electron microscope, which permitted high-resolution photo-microscopy at magnifications that were much higher than that of light microscope (Donlan, 2002).

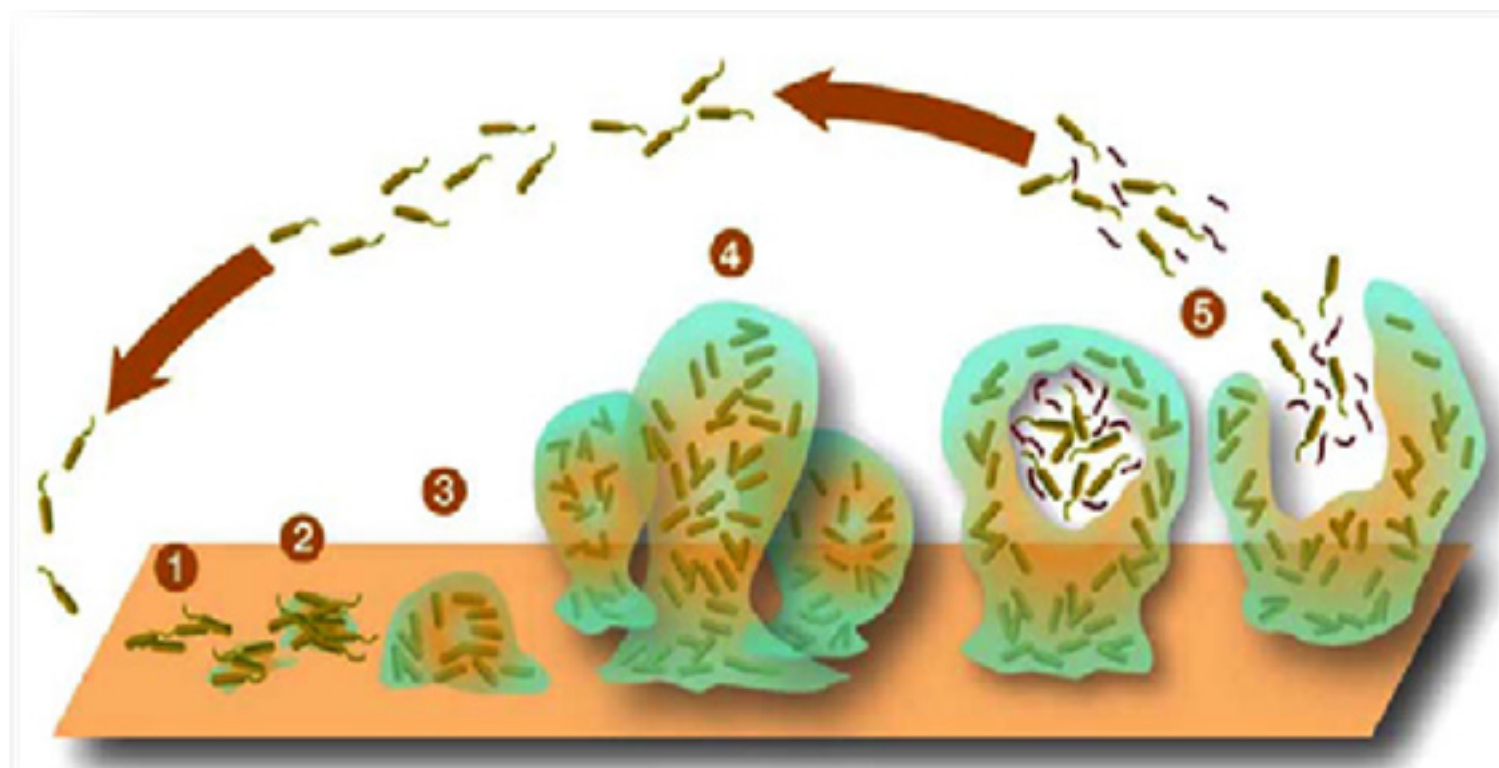
Biofilms are extremely heterogeneous in nature. Several observations and measurements on various biofilms have been made; all of them point to the diversity found in individual biofilm colonies. Typically, naturally occurring biofilms almost always have a quantitatively large number of different kinds of organisms living in colonial form. Additionally, different biofilms seemingly show different electrical properties, chemical properties, internal structures, and, definitely, different properties of pretty nearly any other observation that can be made.

These properties contribute to differential characteristics of the biofilm (e.g., hard to kill) compared to individual microorganisms in isolation (in a planktonic environment) (Cunningham, Lennox and Ross, 2008).

### 1.1. Biofilms Formation Process

Generally development of a biofilm occurs in different chronological phases, which are illustrated in Figure 1 below:

**Figure 1. Major steps involved in biofilm formation (Source: Harrison, 2007)**



#### 1.1.1. Surface conditioning

Surfaces on which biofilms are attached are first conditioned by adsorption of inorganic and organic nutrients. This adsorption is required to influence the subsequent bacterial attachment. Surface conditioning can increase tolerance to antibiotics for example; *Pseudomonas aeruginosa* biofilms developed better tolerance to tobramycin (antibiotic agent) and large cellular aggregates when attached to surfaces conditioned with the glycoprotein mucin and allowed to grow there.

#### 1.1.2. Reversible attachment

The preliminary transport of bacterial cells and their reversible attachment to a surface usually occurs by brownian motion of the cells, active movement of motile bacteria, physical and electrostatic interactions between the cell surface, convection currents within a bulk liquid responsible for transporting bacteria to the surface, substratum and sedimentation. This state of bacterial adhesion to surface may result in symmetrical distribution between suspended and adhering cells, and is considered as the weakest link in the series of events that connect the bacterial cells to the surface conditioned beforehand (Landry et al. 2006).

#### 1.1.3. Irreversible attachment

Because of stimulation of membrane bound sensory proteins, the cells which were attached reversibly to surface now produce

extracellular polymeric substances which allows the cell-to-cell bridges development that attach the cells to the surface irreversibly.

#### 1.1.4. Colonization

Surface colonization is the final phase of biofilm formation. Attached bacteria form micro-colonies by growing and dividing. These micro-colonies are considered as the fundamental units of organization of a biofilm. Other planktonic cells also get entrapped in the extracellular polymeric substances, resulting in the establishment of a biofilm. Primary colonizers i.e. one bacterium that colonizes a surface, often influence the secondary colonizers i.e. attachment of others to the same surface.

#### 1.1.5. Detachment

Initially the researchers suggested that the detachment of clumps of biofilm cells and subsequent transfer and attachment to other surfaces might be due to turbulent shear forces. Such a mechanism of detachment can only be accurate for biofilms which grow under laminar shear forces and are seemingly detached due to turbulent shear forces. Nevertheless, recent studies have suggested that detachment, frequently termed as 'dissolution' or 'dispersion', is an active and highly regulated process controlled by the attached cell populations (Lindsey and Holy, 2006). (Figure 1)

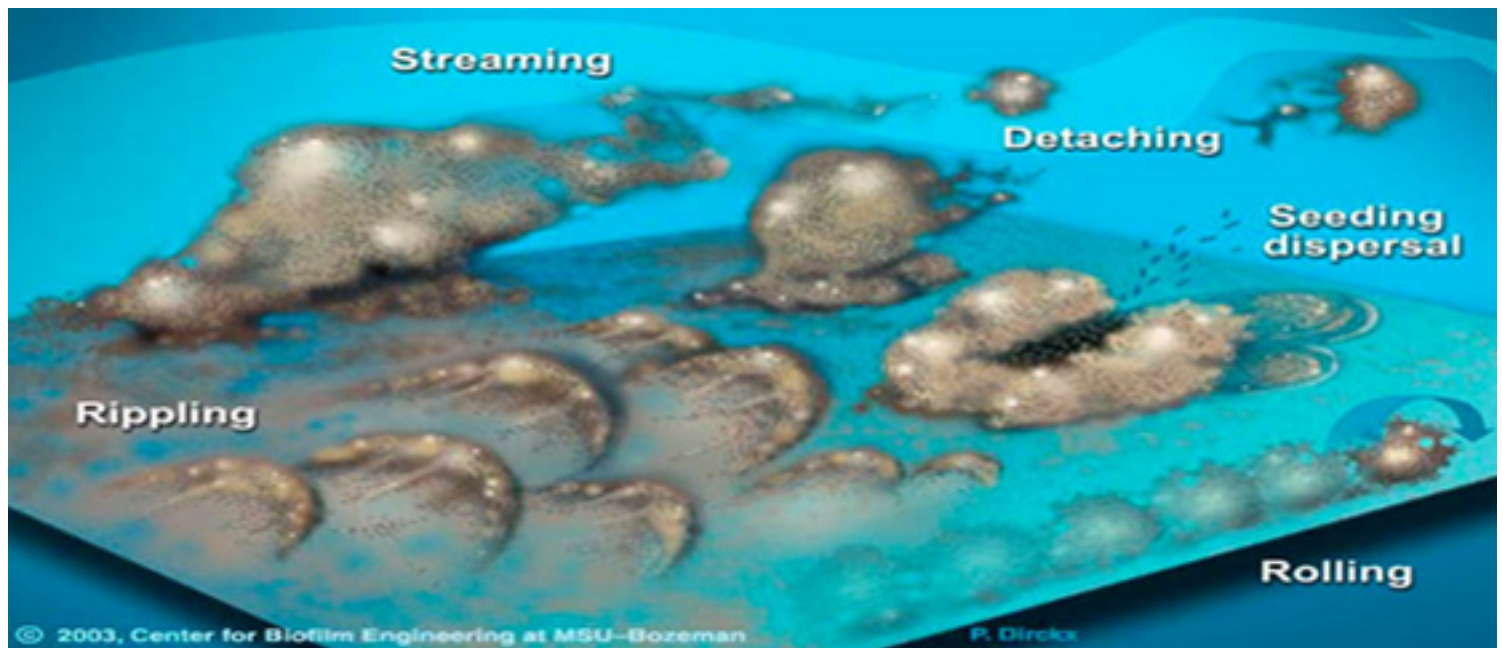


## 1.2. Properties of Biofilms

Some apparent characteristics common to almost all biofilms being observed are as follows:

- Biofilms are responsive to their environment and are dynamic in nature; that is, they are very adaptive to environmental changes.
- Detachment phenomenon is common among all biofilms. Through this phenomenon individual or clumps cells of bacteria become able to detach themselves from the biofilm colony.
- Detached individual microorganisms are comparatively easy to kill in isolated form with specifically designed chemicals for this purpose (antibiotics).
- The detached microorganisms of the biofilm are the cells in clump form that are just not attached to the biofilm at that time. However, these clumps are able to maintain the original properties of the parental biofilm and thus are a lot harder to kill.
- In favorable conditions, biofilms can migrate from surface to surface in a variety of ways over a period of time. This migration may be via streaming, rippling, detaching, seeding dispersal and rolling as illustrated below in Figure 2.

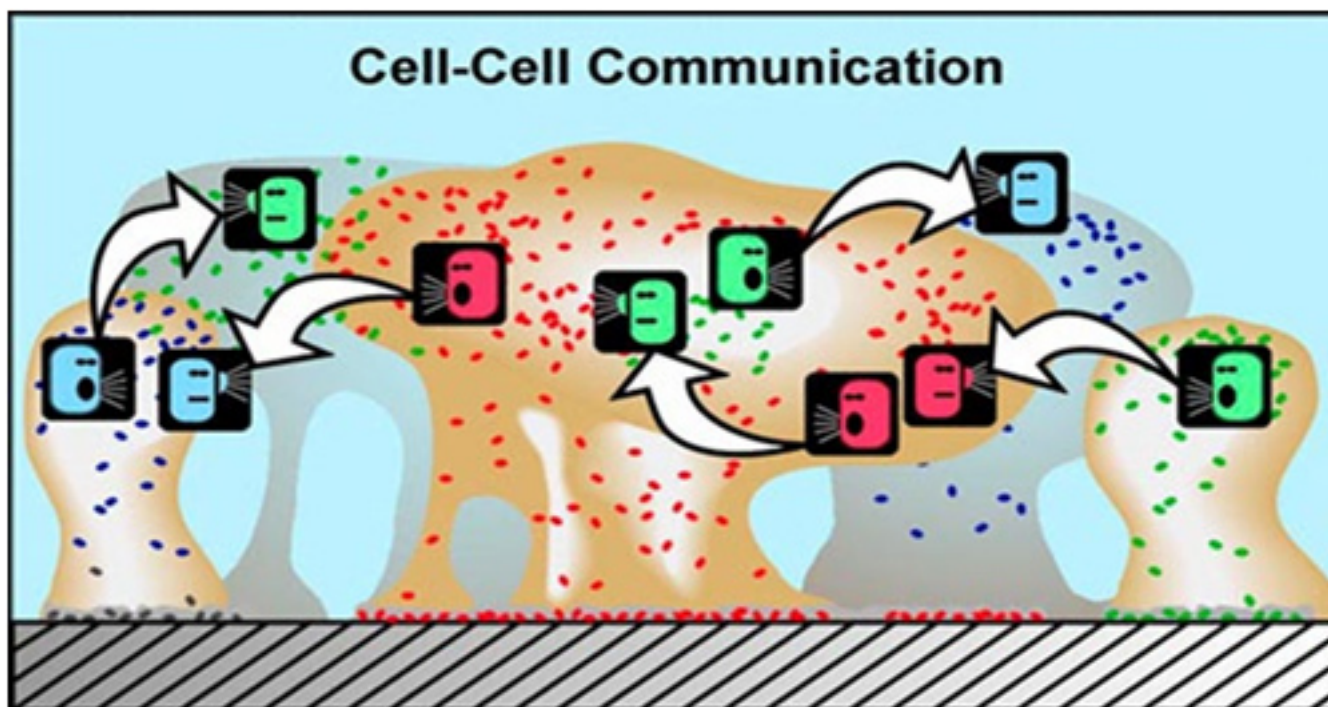
**Figure 2. Biofilm migration (Source: Cunningham, Lennox, and Ross, 2008)**



- Another main characteristic of the cells that are found in a biofilm is their ability to communicate with one another. Bacterial communities communicate with each other using different chemical signals. These chemicals are produced and passed by outer membranes of these cells and can be interpreted by members of the same cell species as well as other microbial species present in the same biofilm community.
- These chemical signals are sensed by adjacent cells in the biofilm and can induce different behavior of neighboring cells due to occurring of different genetic expression in those cells (Figure 3).
- In Figure 3, different colors represent different bacterial species. Bacteria can “talk” to others and they “listen” or respond to the chemical signals produced by the other. This type of interaction produces behavioral changes because in biofilms the population is numerous enough to initiate genetic activity. Although the same signals are produced in planktonic populations they are not concentrated enough to cause genetic expression change while passing through water.
- There is a population recognition system present in biofilm which is termed as “quorum sensing”. For example, bacterial pathogens only produce toxins when they sense that a sufficient population is present to survive host defenses (e.g., antibodies). *Vibrio fischeri*, a marine bacterium was the first one in which this phenomenon was observed which produced light after ensuring that an adequate population of this bacterium has been developed in biofilm.
- The coordinated behavior of biofilm is responsible for the survival strategies against host immune system and antimicrobial agents.



Figure 3: Communication mechanism within a Biofilm community. (Source: Cunningham, Lennox, and Ross, 2008)



## 2. Bacterial Biofilms

Formation of bacterial biofilms occurs when unicellular organisms join each other to shape a community which attaches itself to a solid surface and sheathed in an exopolysaccharide matrix. Single or multiple bacterial species can make up biofilms. For instance, the estimations reveal that dental biofilms contain more than 500 different bacterial taxa; on the contrary, the primary bacterium found in latter stages of cystic fibrosis (CF) patients' lung is *Pseudomonas aeruginosa*. The bacteria of the same kind act or behave differently (or show different properties) when they are in a biofilm in comparison to their isolated or planktonic form (that is, freely floating bacteria as single cells in water). Some of the very important characteristics of bacteria growing in biofilm are dissimilar to the planktonic bacteria and this has noteworthy therapeutic and diagnostic consequences. This difference is due to the location of bacteria in biofilm infections in aggregates surrounded by the self-produced matrix. Biofilms can be recognized in clinical specimens (biopsies, septum, pus) by making use of light microscopy, though all the bacteria within a biofilm cannot be identified precisely. Their identification requires specialized staining techniques. Additionally the bacteria growing in a biofilm cannot be cultured by traditional sampling techniques unless they are released by ultrasonic pre-treatment (Moskowitz et al. 2004; Bjarnsholt et al. 2007; Hoiby et al. 2010).

It has been observed that the resistance of bacteria to an antibiotic is also amplified in comparison to what is seen usually with planktonic cells. In effect, when these cells exist in a biofilm, they utilize 10-1000 times more resistance to the effects of antibiotic agents (Evan and Holmes, 1987; Mah and O'Toole, 2001). These antimicrobial drugs are traditionally developed to kill planktonic bacteria (free bacteria) by assuming that

they would destroy the same bacterial species irrespective of wherever or in what form they were found. However studies reveal that:

1. Planktonic bacteria are more prone to antibiotic chemicals intended to destroy them than are the bacteria present in biofilms, and
2. Numerous infections that effect humans are in fact caused by bacterial colonies present in the biofilm state, not the bacteria in planktonic state.

With this information along with the fact that traditional antibiotics have been tested and designed for bacterial population in their planktonic growth mode which is relatively unprotected, we can begin to understand the basic reason behind the antibiotics resistance of same bacteria when they exist in a biofilm (Cunningham, Lennox, and Ross, 2008).

## 3. Antibiotic Tolerance/Resistance Of Bacterial Biofilms

Since the discovery of penicillin in 1938, there has been a tremendous success in control of acute bacterial infections by the help of antibiotics. Microbiologists have predicted in vivo effects of antibiotic effects in vitro evaluation of the minimal bactericidal concentration (MBC) and minimal inhibitory concentration (MIC). MBC and MIC help in assessing the effect of antibiotics against planktonic bacteria in the exponential phase of growth and consequently predict effectiveness of antibiotic against rapidly dividing bacteria in acute infections quite correctly. However, biofilms show a resistance against these antibiotics and thus are of major importance from a clinical point of view as more than 60% of the infections due to bacteria, currently treated in the developed world by physicians involve the bacteria responsible for biofilm formation, some of which are given in Table 1. This increased tolerance of

bacterial biofilms to disinfectant chemicals and antibiotics as well as resistance to phagocytosis and other mechanisms of the defense system are a cause of many chronic infections. For instance, persistence of staphylococcal infections related to foreign bodies is due to formation of biofilm. Similarly, chronic lung infection due to *Pseudomonas aeruginosa* in CF patients is caused by biofilm-growing mucoid strains. (Table 1 - opposite page)

Biofilms have a triple role to play in the spread of antibiotic resistance such as:

- The treatment of infections caused by biofilms requires long-term and recurrent therapy with antibiotics.
- Physiology of biofilm enables bacteria embedded in them to survive long term exposure of antibiotic to acquire specific resistance to the particular antibiotic agent.
- The accumulated mobile genetic elements within biofilms, high cell density and increased genetic competence provide an ideal condition for efficient horizontal gene transfer (Fux et al. 2005).

The major factors that are involved in rendering antibiotic resistance to bacterial biofilms are explained in Figure 4 given below. (Figure 4)

### 3.1. Mutation

The frequency of mutations in bacteria growing in biofilms is significantly higher in comparison to bacteria growing in planktonic environment and additionally the horizontal gene transmission is also found to be higher in biofilms. These physiological conditions explain the reason behind multidrug resistance of bacterial biofilms. These bacteria easily become resistant to aminoglycosides, fluoroquinolones and lactam antibiotics. Bacterial biofilms may simultaneously produce antibiotic degradation enzymes. It has been shown experimentally that mutations in bacterial biofilms establish the surfacing of antibiotic resistance, especially due to expression of multidrug efflux pumps. The cause of enhanced mutability is considered to be a result of oxidative stress to which the bacterial biofilms are subjected. Researchers show that due to oxidative stress within the biofilms, there are specific sites within them for superior genetic adaptation and evolutionary change. Thus the hypermutability of bacterial biofilms promotes the antibiotic resistance to biofilms conferred by mutations (Driffield et al 2008; Conibear et al. 2009).

### 3.2. Presence of Resistant Phenotype

There is a biofilm-specific phenotype which is resistant to antibiotics. This phenotype is present within a subpopulation of the biofilm community which results in the expression of active mechanisms for making the biofilm antimicrobial resistant. Generally when the biofilm attaches to a surface their expression is a general phenotype representative of that biofilm and the subpopulation genes are repressed. However, it is a possibility that just a subset of these biofilm cells could express genes for augmented resistance to antibiotics (Mah and O'Toole, 2001; Fux et al. 2005).

### 3.2.1. Induction of a Biofilm Phenotype

The resistant phenotype is maybe induced by certain types of environmental stress, nutrient limitation, high cell density or an amalgamation of all of these happenings. Another mechanism for inducing antibiotic resistance in biofilm cells is the membrane-protein composition alteration in response to exposure of antibiotic agents. The resultant change could decrease the permeability of the cell to these substances (Mah and O'Toole, 2001; Fux et al. 2005).

### 3.3. Bacterial Adaptation to Stress and Damage

Another reason for antibiotic resistance of bacterial biofilms is the ability of bacteria to adapt itself to stress conditions. For instance, organisms present in a biofilm increase their capacity to neutralize and withstand monochloramine, induce the expression of chromosomal betalactamases or stimulate catalase production when subjected to prolonged and concurrent subjection to or treatment with the respective antibiotic compounds. Bacterial biofilms can switch themselves to more tolerant phenotypes upon facing prevalent environmental stresses such as temperature alterations, alterations in osmolarity, pH, cell density and nutritional quality by turning on stress-response genes. Stress-response genes produced by the bacterial biofilms can not only antagonize the deleterious effects of antibiotics but also that of the environmental toxins and immune system on bacteria. These genes are regulated by the interacting signals, i.e. quorum sensing (Boaretti 2003).

### 3.4. Quorum Sensing and High Cell Density

As mentioned earlier, bacteria in a biofilm communicate with others present in the same biofilm by synthesizing and reacting on some chemical signals. This phenomenon is referred to as Quorum Sensing (QS) and it allows bacteria to sense when a sufficient amount (or concentration) of bacterial cells are in attendance in a confined space of biofilm environment and thus act in response to it by certain gene activation that results in production of virulence factors such as toxins or enzymes. This relationship between biofilms and QS is termed as sociomicrobiology. The QS molecules (signals) are peptides of small size in many Gram-positive bacteria, while N-acyl-L-homoserine lactones present in Gram-negative bacteria are the most well described QS molecules (Jensen et al. 2007). An example of QS's role in designating antibiotic resistance to biofilms is that for *Pseudomonas aeruginosa*; QS is responsible for regulating the virulence factors production such as cellular lysins and extracellular enzyme, which are important for the pathogenesis of infections by functioning as a protective shield against phagocytes. In addition QS has also been shown to determine the resistance or tolerance of biofilms of *Pseudomonas aeruginosa* to antibiotic therapy and to the innate inflammatory response (Gennip et al. 2009; Alhede et al. 2009).

### 3.5. Stratified Activity and Low Oxygen Concentration

Examination of environmental and in-vitro biofilms exposed that the concentration of oxygen and other nutrients might be high at the surface but moving towards the centre of the biofilm anaerobic conditions might exist and nutrient concentration may decrease thus forming gradients on nutrients and

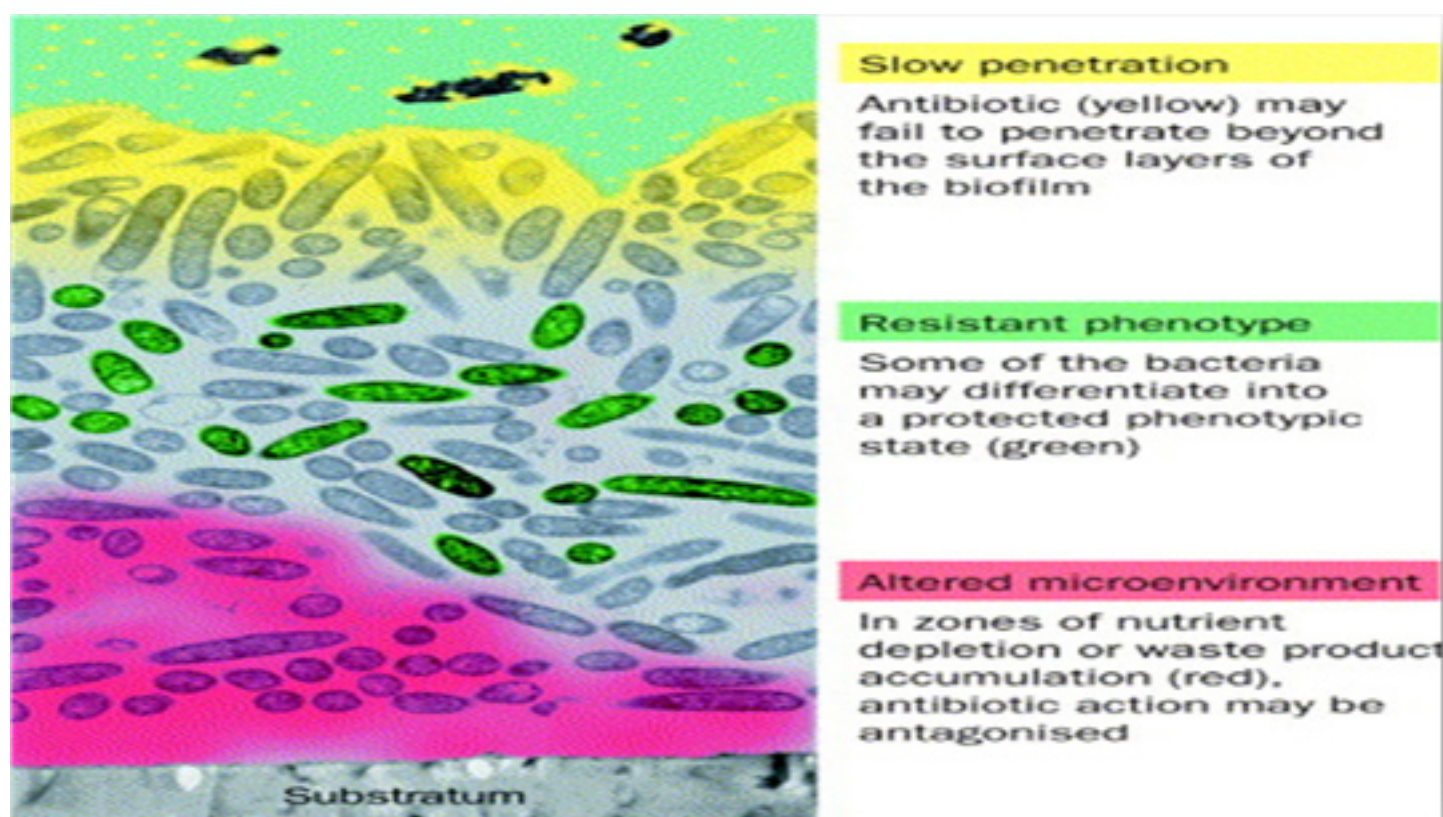


Table 1. Human infections involving biofilms

Infection or disease	Common bacterial species involved
Dental caries	Acidogenic Gram-positive cocci ( <i>Streptococcus</i> sp.)
Periodontitis	Gram-negative anaerobic oral bacteria
Otitis media	Non-typeable <i>Haemophilus influenzae</i>
Cystic fibrosis pneumonia	<i>Pseudomonas aeruginosa</i> , <i>Burkholderia cepacia</i>
Endocarditis	Viridans group streptococci, staphylococci
Musculoskeletal infections	Gram-positive cocci
Biliary tract infection	Enteric bacteria
Infectious kidney stones	Gram-negative rods
Bacterial prostatitis	<i>Escherichia coli</i> and other

(Source: Fux et al. 2005)

Figure 4. Antibiotic resistance of bacterial biofilms (Source: Stewart and Costerton, 2001)



oxygen. This gradient formation is related to the decreased metabolic activity of bacteria and thus increases doubling time. It is this somewhat dormant state that is responsible for some of antibiotic tolerance of biofilms. This could be explained by the fact that planktonic organisms, though they utilize nutrients, do not have adequate metabolic activity required for their depletion. Thus when they are present in biofilm, in form of a group, their collective metabolic activity reduces further and leads to formation of concentration gradients of substrates and localized chemical microenvironments leading to stratified protein synthesis, growth and metabolic activity in biofilms, i.e. a high level activity at the surface of biofilm while a low level activity along with slow or no-growth persistent in the center of biofilm. Thus stratified activity along with low concentration of oxygen and reduced growth rate may result in less liability of biofilms to antibiotics or antimicrobials (Werner et al. 2004; Hoiby et al. 2010).

### 3.6. Failure of Penetration of Antibiotic in the Biofilm

The glycocalyx or exopolysaccharide matrix production is one of the distinctive traits of biofilms. This matrix, among performing other functions, prevents antibiotics' access to the bacterial cells entrenched in the community. Usually, it is either compound's sorption to or its reaction with the components of the biofilm, which limits the transportation of antimicrobial agents into the cells embedded in biofilm. Although it is suggested by various mathematical models that there should be no barrier to their diffusion into a biofilm for the antibiotics, some researchers have revealed a noticeable failure of penetration of certain antibiotic agents to the biofilm. For instance, as measured by a chlorine-detecting microelectrode, Chlorine which is a common disinfectant, failed to reach 20% of the concentration of bulk media within a mixed *Klebsiella pneumoniae* and *Pseudomonas aeruginosa* biofilm. Indeed,

the penetration profile suggested that the substrate got consumed within the matrix. Other researchers made use of infrared spectroscopy to show that the transportation rate of the antibiotic ciprofloxacin to the colonized surface was reduced in comparison to a sterile surface. It was suggested that the low penetration of ciprofloxacin was due to its binding to the biofilm components. Even the antibiotic agents that get adsorbed into the biofilm matrix have shown to have a retarded penetration. Slow penetration of aminoglycoside antibiotics is one such example. These antibiotics are positively charged agents that bind themselves to negatively charged polymers in the matrix of biofilm (Stewart and Costerton, 2001).

### 3.7. Heterogeneity

Any bacterial cell present within the biofilm experiences a somewhat different environment as compared to the neighboring cells present in the same biofilm, and therefore has a different growth rate. The nutrients, signaling factor and waste products gradients that are formed within a biofilm allow for the heterogeneity to develop within the biofilm. This heterogeneity can also be one of the reasons for the antibiotic resistance of biofilms. For example in an experiment when biofilm cells were subjected to the antibiotic treatment with fleroxacin, cell elongation occurred which was at extreme level in exposed cells i.e. the ones located on the uncovered side of the biofilm. These studies disclose that the response to antibiotics can vary greatly, depending on the location of a particular cell within the community of biofilm. Thus the distribution of bacterial survival is irregular within seemingly identical micro-environments.

## 4. Anti-Biofilms Approaches

Anti-biofilm approaches have to put a stop to more than one antimicrobial mechanism concurrently to be effective clinically, as due to the heterogeneity of biofilms an antibiotic or antimicrobial agent may be able to destroy some of the bacterial cells present in a biofilm, but it is very improbable for it to efficiently kill them all. All the currently used antibiotics were developed on account of their activity against bacterial cultures growing in a planktonic environment. Thus, devel-

opment of new screens of currently accessible and potential antibiotics might yield clinically effective antimicrobial agents against biofilm infections if they are selected for their activity against biofilm or non-growing cells. As genes and the products of genes responsible for antibiotic resistance of biofilm are identified and characterized, these will become chemotherapeutic targets to augment the effectiveness of currently in use antibiotics against infections caused by biofilms.

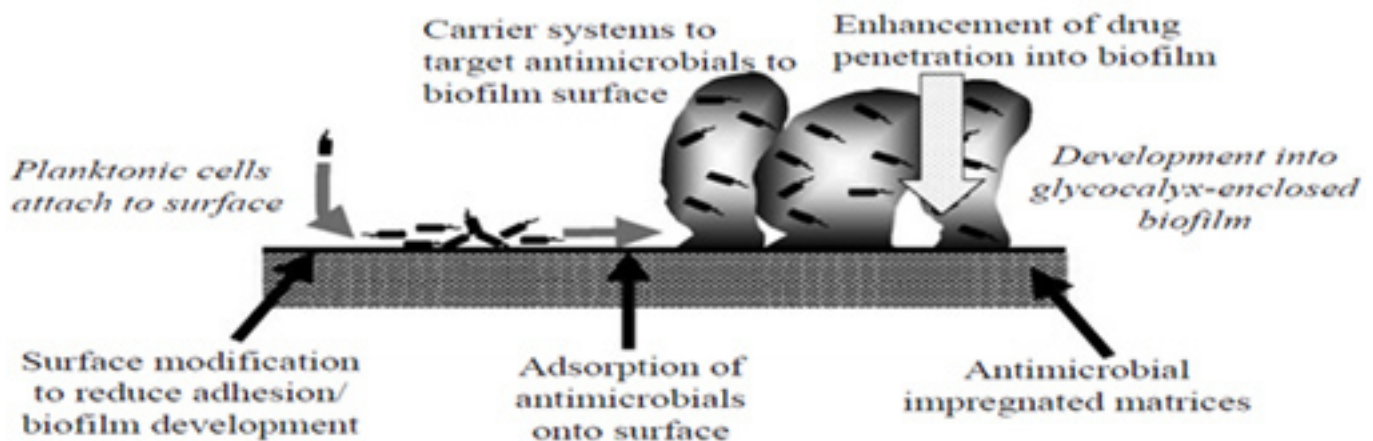
As the antibiotic resistance of a biofilm depends on multicellular communities of bacteria, one of the anti-biofilm strategies may be development of therapies that can disrupt this multicellularity of the biofilm. If that happens, defenses of the host will be able to resolve the infection, and the effectiveness of antibiotic agents may be enhanced (Stewart and Costerton, 2001).

Some of the other potential antibiofilm strategies include QSIs and improvement of drug delivery systems which are explained in the sections below.

### 4.1. Use of Quorum Sensing Inhibitors

There exists in nature several compounds that can act as Quorum Sensing Inhibitors (QSI). A case of such a naturally existing QSI is found to be present in garlic extract, which renders otherwise resistant biofilms liable to antibiotic therapy both in vivo and in vitro. The naturally occurring QSI compounds can also be synthesized and subjected to structural modification for inhibition of QS in experimental animal infections (in vivo). Since it is well known that the bacteria present in a biofilm lead to chronic infections due to their communication, QSIs can be used to cure these infections. Some antibiotics such as azithromycin, ceftazidime and ciprofloxacin inhibit QS in *Pseudomonas aeruginosa* leading to inhibition of the bacterial virulence. Thus QSIs have improved the synergistic weak effects of antibiotics on bacterial biofilms leading to elimination of biofilms. Current research states that resistance against QSI can only occur due to mutations (Hoiby et al. 2010). If this holds true, then conventional problems of antibiotic resistance that we face nowadays will not be a clinical problem.

Figure 5. Antibiofilm strategies (Source: Smith, 2005)





## 4.2. Improvement of Drug Delivery System

Numbers of strategies have been proposed for prevention of biofilm formation and colonization, drug accumulation at the surface of biofilm and its delivery into the biofilm. An effective approach to counter antibiotic resistance of biofilms is the use of a better or more effective drug delivery system which could be done by the processes illustrated in Figure 5 (Smith, 2005).

### 4.2.1. Liposomal Delivery to Biofilms

Liposomes are considered as attractive vehicles for drug targeting/delivery because of their compatibility with biological components. In the context of infection treatment via antibiotics liposomes have been studied for their ability to deliver these antibiotic agents into the biofilm. Research shows that if a drug is targeted to the biofilm by anionic liposomes, each of the bacteria in the biofilm adsorbs the drug separately to a smaller extent. Interestingly when it targets mixed biofilms then the drug is most effective against one but ineffective against the other, for example when liposomes laden with the bactericide triclosan targeted mixed biofilms of *Streptococcus salivarius* and *Streptococcus sanguis*, they were most useful against *Streptococcus sanguis*, but relatively useless against *Streptococcus salivarius* (Robinson et al. 2001).

## 5. Conclusion

Antibiotic resistance of biofilms depends not only upon the bacterial colony of the biofilm but also to the antibiotic agent used to destroy that biofilm along with inherent characteristics of biofilms including their mode of growth, environmental heterogeneity leading to the generation of heterogeneous population, signaling, mutations etc. Nonetheless, further studies are required for further elucidation of how the bacterial biofilms protect themselves against microbial agents. Additional cause of antibiotic resistance of biofilms is that almost all the currently available antibiotics have shown to be less effective for treating biofilms due mainly to the reason that they were designed on account of their activity against planktonic cells in conventional laboratory culture and have a small range of cellular targets. In the meanwhile eradication of bacterial biofilm depends on combined treatment strategies, quorum sensing inhibition and modern drug delivery approaches.

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# Present Status of *Pinus gerardiana* Wall. in Pakistan: A Review

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## Abstract

The present review paper highlights the current status of *Pinus gerardiana* species in Pakistan. *Pinus gerardiana* Wall. is a Near Threatened species under IUCN red list category. Pure strands of *Pinus gerardiana* are present in Pakistan which are facing threats due to the poor management practices and unsustainable timber harvesting. Therefore it is suggested that sustainable harvesting and good management can help to conserve the *Pinus gerardiana* which requires a suitable action plan and strengthened legal enforcement should be implemented on a priority basis.

**Key words:** Chilghoza, IUCN Threatened Species, Timber Extraction, Conservation

## Introduction

*Pinus gerardiana* (Wall. Ex.D. Don) is commonly known as "Chilghoza pine" and is found at an elevation between 1800 to 3350 m in Temperate forest (Khan et al., 2015) existing in East Asia, South and South East Asia, West and Central Asia. In East Asia, *Pinus gerardiana* is growing in China (Tibet / Xizang) and in South East Asia it is growing in India particularly at Jammu-Kashmir locality whereas in West and Central Asia Chilghoza is growing in Afghanistan and Pakistan.

In 1965, Champion declared that Chilghoza pine is an economically valuable species (WWF-P, 2012) for it is an edible product. It's often grown and found in association with Blue pine (*Pinus wallichiana* A.B. Jacks), Deodar (*Cedrus deodara* Roxb. G.Don) Juniper (*Juniperus excelsa* M. Bieb.) and Oak (*Quercus ilex* L.) (Richardson and Rundel, 1998). Chilghoza tree is a very slow growing tree and growing 10-20 m in height. One study showed that its ring counting revealed that it took 64 years to attain a circumference of 2m at stump level (Javed, 2009). In year 2013, it was assessed as Near Threatened (NT) species under IUCN red list (IUCN, 2015).

In Pakistan, a forest of *Pinus gerardiana* is found on Suleiman Mountain Ranges (SMR) which is an extension of Hindu Kush at junction three provinces i.e. Baluchistan, KPK and Punjab and covering a total area about 260 km<sup>2</sup>. SMR carries the world's largest pure stand of Chilghoza (*Pinus gerardiana*) forests that are spread over the border of southeastern Baluchistan and the KPK. This forest provides habitat to the Markhor (*Capra falconeri jerdonii*) species which is also endangered under IUCN red list category (WWF-P, 2013). Moreover this forest has not only medicinal and economical value to local communities as well as to the country but also has ecological benefits like this species has the potential to reduce soil erosion as the species is a strong soil binder and prevents erosion of soil in the region (Sehgal and Khosla, 1986).

Local people collect green cones by self-picking from trees which are buried for about a fortnight till the cones open. Then seeds are extracted by striking cones on a hard surface. After that pine nuts are roasted in iron containers by mixing with soil over a fire. An individual tree yields minimum 20 kg and maximum 40 kg nuts (Sabra and Walter, 2001). Usually cones from trees are collected by a long pole having an iron hook. Due to this process of picking, injury is caused to the tree and climbing up the tree also causes branches to be broken.

### Major Threats to *Pinus gerardiana* Wall.

Major threats to *Pinus gerardiana* are agricultural and aquaculture practices like livestock farming and ranching at small scale. Other threats to *Pinus gerardiana* are logging, wood harvesting, and international use of targeted species by gathering and IUCN categorizes all these threats under the term "Biological resource use". Poverty and lack of alternative energy fuels resulted in degradation of the forest.

WWF-Pakistan has also reported that local communities use Chilghoza forest as a source of timber and fuel wood instead of harvesting nuts, which has higher economic value. The main reason is that *Pinus gerardiana* is a very slow growing species. Another study by Shengji in 1996 highlighted that major risk to forest of *Pinus gerardiana* at Suleiman ranges is from the local community, for timber extraction.

Different researchers have discussed in their studies that anthropogenic activities like tree and plant harvesting for fuel wood, overgrazing, burning and many other factors are responsible for disturbance in forests and result in variation in size distribution and instability (Beg & Khan, 1984; Ahmed et al., 1984, 1988; Ahmed et al., 2009; Wahab et al., 2008; Siddiqui et al., 2009; Khan et al., 2010; Akbar et al., 2013; Hussain, 2013).

In Chilghoza forest local people graze their animals in areas where forests need to regenerate. But due to bad management practices and allowing of grazing in small concentrated places lead to land degradation and stops forest regeneration (WWF-P, 2013).

In one previous study it was indicated that insect attack on Chilghoza is another threat. A total of 18 months is required for cone formation. Insects attack seeds at all stages of growth especially during 16 months which is the cone formation period (Akbar et al., 2014).

WWF-Pakistan reported in 2013 that poor livestock management practices are leading to ecosystem and habitat degradation at many points. Grazing is concentrated into small areas, and is allowed in areas where forests need to regenerate. This leads to land degradation and stops forest regeneration. Also fire is initiated mainly due to negligence of grazers or travelers. According to a local, the Chilghoza forest of Kunday Qaisa burnt due to fire in 1999. This fire resulted in damage to many Chilghoza trees.

Data analysis depicts that the Chilghoza tree harvesting was highest in the year 1995 wherein 16901 trees, corresponding to 120,000 cft, were hewed. Afterwards, there is gradual decline in the tree harvest and in the year 2005, only 1352 trees, corresponding to 9600 cft were felled (WWF-P, 2013).

### Timber Harvesting Methods

Chilghoza timber is harvest by three different methods, such as: by the owner; by a petty contractor; and by a 50-50 share between the owner and the logger or contractor. Timber harvesting by owner is the most desirable way of logging because here the logger being the owner has concern for the fruit rather than the timber. The second case involves only the petty contractor who pays a pre-determined fixed amount to the owner of forests and becomes the owner of the lot to be harvested. This is the most damaging logging. In the third case, the logger or contractor may either pays a mutually agreed lump sum amount to the forest owner and cuts a specific number of trees marked by him, or he shares the sale value on a 50-50 basis with the owner when the entire timber has been marketed. The fact is that the revenue generated from Chilghoza is more than revenue generated from timber harvesting (WWF-P, 2013).

### Management Priority

Chilghoza forests of Baluchistan are probably the only forests of the country that have never been managed under a formal system of management: "Working Plan" or "Management Plan", for example. The main reason is that these forests are privately-owned and belong to hundreds of families of the so many sub-tribes of Sheranis. However in 1991, WWF-P adopted a two-pronged strategy and initiated efforts to control the commercial logging of Chilghoza forests and hunting of Markhor. Then in 1998, the Federal Ministry for Economic Cooperation and Development (BMZ) sponsored a research project titled "Integrated Conservation and Development Program for the Chilghoza Forest Eco-system and the Dependent Community in the Suleiman Range" which was carried out with the aim to quantify forest problems and know the existing and potential agricultural practices. During 2005-2007, WWF-P conducted a project entitled "Conservation of Chilghoza and associated scrub forest in selected villages of Tehsil Sherani District Zhob". Aims of this project were to improve management of Chilghoza forests, rangeland and enhance alternate livelihood sources (WWF-P, 2013).

Another project conducted by WWF-Pakistan was on Conservation of Chilghoza forest ecosystem through natural resource based livelihood improvement in Suleiman range. Duration of this project was two years (2012-2014). This project had successful efforts like community protected Chilghoza forest area which increased by 260 ha along with increased income from nut production and agricultural practice which reduced the rate of deforestation (WWF-P Factsheet, 2014).

## Conclusion

Different addressed threats and conservation efforts by WWF-Pakistan to the *Pinus gerardiana* species have been discussed under a wide spectrum through this review paper. WWF is the main body which is involved in conservation of *Pinus gerardiana* and regulation of timber harvesting. It has also highlighted that revenue generated from Chilgoza nut is much higher than the revenue generated by timber harvesting. Though, the problems are solved by the conservation efforts of WWF to some extent, still there is lack of proper legal enforcement and management plan for conservation.

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# Smart city-smart life - Dubai Expo 2020

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## Abstract

With the announcement of World Expo 2020 Dubai has marched towards attaining its smart city goal by three prolonged focuses on smart economy, smart life and smart tourism. Keeping in mind the vision of Dubai to be a ranked city in term of smart, well connected city by 2017 which will be a leader not a follower on technology innovation and knowledge advancement, in this paper author has pointed out some of the areas where Dubai can focus to become one of the prime digital economies keeping in mind expo 2020.

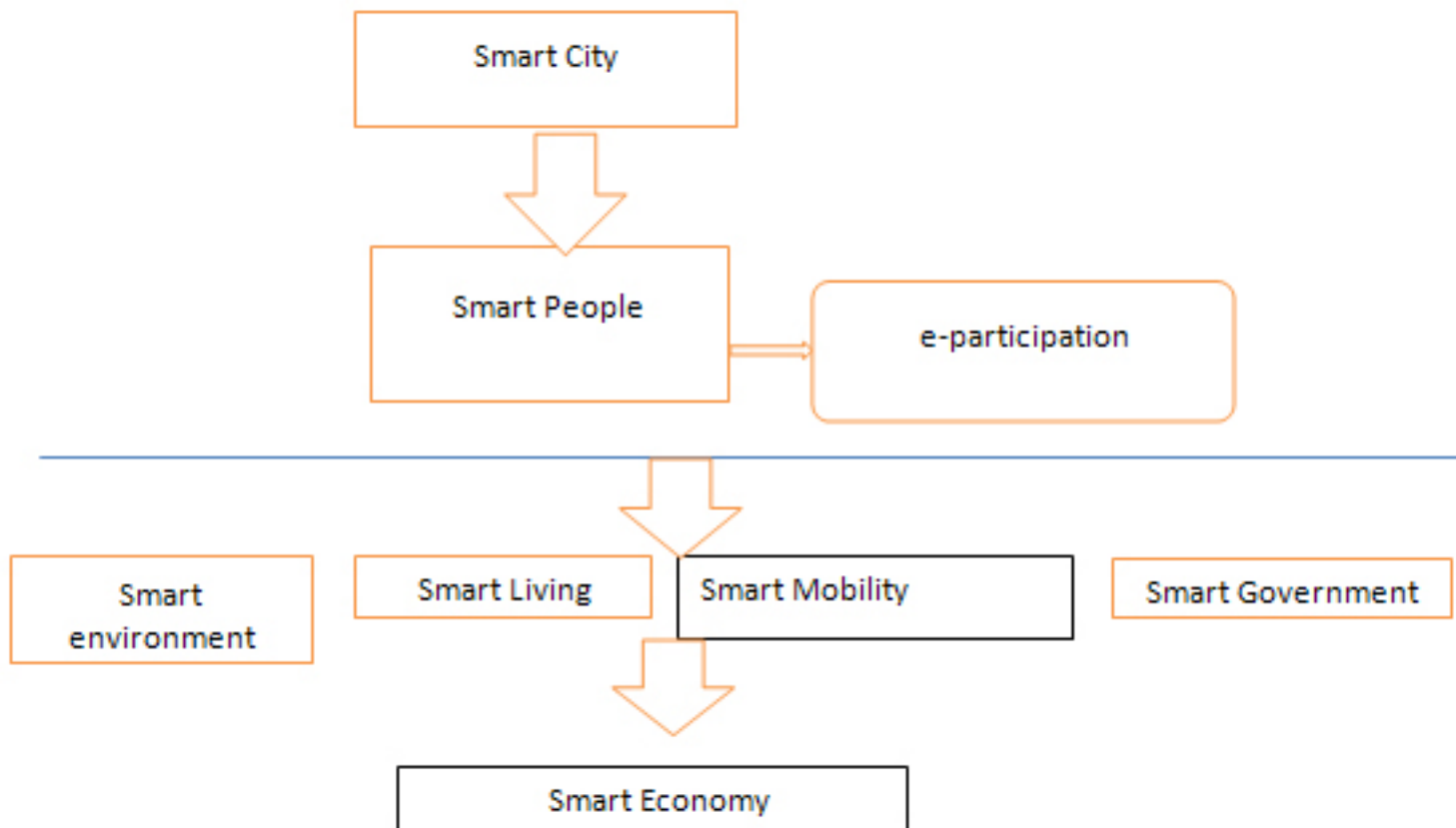
## 1. Introduction

Multiplying the growth in technology sector has affected the growth in real estate sector across the world and UAE, a technology based economy, is also not untouched by its effects. The day the UAE thought to organize expo 2020, the visionary leaders of this country thought of a smart city and an example is silicon oasis. Every economy wants to achieve sustainable developments by means of a smart city, smart economy, smart life, smart tourism and even smart education; in this paper we focus on means of a smart city through a smart life.

What is a smart city: There is still no uniform concept and many different approaches have been used for it. Every paper deals with different parts like smart grid, intelligent transportation system, smart home, smart water, smart medical care, smart food, smart education, smart shopping and so on.

As per Figure 1 (next page) every smart city wants to make smart people by giving them a smart environment, smart living, smart mobility, smart government, smart communication and this leads to a smart economy; but for all these any economy must not compromise health, safety, or productivity issues, rather they should be ready to embrace any new creativity, innovations, entrepreneurship and must adopt transparency. The concept of a smart city is incomplete without the engagement of the general public through e-participation in recognizing their role in making strategies and Dubai is using it fully.

Figure 1: Model of smart City



#### Literature review

A more modern way of naming SMART cities is MESH cities [Kominos, 2001]. MESH stands for: M=Mobile (mobile devices and the networks that support them provide the bottom-up, real-time information, conduit to supply feedback about a city, its users, and its systems), E=Efficient (about sustainability achieved through effective use, monitoring and management of energy, traffic, etc.), S=Subtle (invisible and non-intrusive systems, easy-to-use modern city systems for citizens), H=Heuristics (heuristics-based continuous improvement, which makes the system self-reflexing, adaptive self-forming and citizen-focused). In his model Smart Cities, Wheel by B. Cohen used blended data from publicly available sources, with this primary data provided by some of the eligible cities in an effort to enhance the accuracy of the 2013 rankings. Therefore the results include data from: the Innovation Cities Index, Brookings Metro Monitor for the Smart Economy measurement; Corporate Knights, Siemens and the Green Building Councils for Smart Environment; Digital Governance Rankings from Rutgers and open databases counted from municipal open data sites for Smart Governance; ranking data from Mercer and Monocle for Smart Living; modal share data from various sources and bike sharing data from Bike-Sharing World Map for Smart Mobility; and Citi Hot Spots and GINI inequality index data for assessing Smart People. Before analyzing concrete examples of Smart City Projects a brief look at the current global state-of-the-art city construction trends shows that smart-cities are being built in consideration of each nation's unique characteristics [Glaeser and Berry, 2006]. The conceptual components of a smart city can be divided into three categories: technology, people and institution. A city can

therefore be considered as smart when investments in these specific areas of development lead to sustainable growth and enhanced quality of life (Dawes and Pardo 2002). In the future, ICT is going to be developed into the soft as well as warm techniques. Artificial Intelligence technique will be upgraded to act like a human being with emotions. [Shin, 2012]. Future of today's Smart Cities can be referred to as Sense, Soft and Warm Technology City. Lee and Hancock categorize the definitions of Smart City by a subjective view on them [Lee and Hancock, 2012].

**Need of Smart City:** The concept of a smart city is gaining a lot of widespread adoption across the world due to its practicality in providing solutions to quality of life by integration of technology with social life by going beyond conventional policies and strategies for improving the life of citizens. It has been estimated that by 2050 world's 70% population will be living in urban areas. Point of concern is that across the world all cities occupy only 2% of land but consume 75% of energy and discharge almost 80% of carbon dioxide. But it is also a fact that smart cities are now a major center for all economic activities and inviting people in search of better employment opportunity, so it is a duty of every government to implement sustainable development based on renewable energy and technology.

**Dubai a smart city:** Every country has its long term vision and ideologies which is reflected by any major strategic change like town planning. The same way every smart city has its own characteristics based on its situations and directions like some smart cities are based on environmental issues may be to become carbon neutral, or conserve water or like Dubai wants to

be a “digital city” or “wireless city” by introduction of state-of-art technology into a concept of urban development. Dubai internet city is one such example. Though there are many social and environmental issues such as gender issues as a male dominated country and shortage of water but still because of its populous and e-governance model and its orientation to support, and a guiding business model through free zone areas and a tax free economy, its economic level is very strong. Dubai internet city is one of the largest knowledge oriented business models in the Middle East region where more than 15,000 knowledge workers are working in more than 700 technology based organizations. Dubai Silicon Oasis (DSO) is the best example of a technology park which provides both living and working integrated communities by providing them industrial, commercial, education, living, residence and public facilities, where everyone enjoys state-of-art utility infrastructure featuring hi-tech ecosystems, telecommunications, electricity and road network.

**Dubai Government - An e-government:** Application of a smart city is not simple rather it is very complex. Apart from providing the latest facilities, an e-government, and e-education it has to do a lot. Especially in Dubai keeping in mind the Expo 2020, the government has taken initiatives to become a smart government by launching many smart applications for the public, even applications for government jobs, relicensing for businesses and many others. It is one of the cities providing an integrated transport system where most of the metro stations are attached not only with bus stops but also to most major malls, and government offices. Salik the beautiful example of e-toll “smart gate” is fully functioning, where there is no stopping but money is exchanged when you use it. *Wojhati* is an application for all daily commuters by public transport where they can find every single piece of information from bus route to stops to bus fares to next stop, to bus timing and bus cancellations. Smart parking application is used by all people who own a car for paying the fee for the car park. For a sustainable environment development a step has taken by government subsidy DEWA (Dubai Electricity and Water Authority) in terms of e-bills. Now no paper bills will be dispatched. It has been recorded that in 2013 3.3 billion transactions has been done by DEWA customers by online or using smart application which helped the elimination of the emission of 11000 tons of Co2 from DEWA office, which is equal to 56331 trees on an area equal to 106 football fields.

**Future of smart city in Dubai for expo 2020:** As Dubai is hosting expo 2020 so need of smart city with latest technology in all areas is a must. The author has tried to identify some of the areas where Dubai government can work in the line of a smart city. These are limited but important and more can be done in many other areas in the terms of digitization, innovation and technology.

**1) Driverless electric power car:** For a city like Dubai where the population is increasing and also there are many environmental problems, a driverless electricity powered car is a solution to save fuel consumption and to save the environment by improving the smart mobility. For this Dubai has already started developing and investing in electric vehicle charging

stations not only as separate charging stations but also in all major malls and big restaurants and hotels. Government is also making policies to offer subsidies in the purchase of electrical vehicles.

**2) Smart parking -traffic management- public lighting:** Many new opportunities in UAE have bubbled up even before the announcement of EXPO 2020. One side is the blooming construction sector and the other side a fast growing population due to a surge in the business sector has created a need of smart parking solutions, latest traffic and safety information, any emergency information or road tolling information. Traffic is a sign of development and Dubai badly needs an advance sensory technology on roads which will help not only to re-direct the traffic but also will notify the nearest hospital in case of road accident and also can give an alternative route to the application user. No doubt Dubai is using a solar lighting system for its public lighting and also gives a huge subsidy to anyone using solar energy for commercial or residential purposes but also can develop a sensor -equipped smart lamp which will use not only less energy but also respond automatically in different environmental conditions. With the help of a smart public lighting system the government can gather the data on traffic density, air quality, noise pollution level, weather conditions, solar radiation and so on.

**3) Smart metering and smart grid:** Every economy is now concentrating on sustainable development by incorporating new technology solutions with zero energy requirements or non-carbon emission or refreshing the existing technology with lower levels of energy consumption which can be done through exporting vivid energy sources for producing, storing and distribution of energy in smart city and in Dubai this can be done alone by modernizing the power system through smart metering system and smart grid infrastructure. One of the primer initiations of DEWA is to encourage more and more Emerati's to install PV solar panel of electricity generation and use of diversifying energy mix. The new system can guide the customer not only to keep a check of their energy consumption level but it can also advise the users to use the best fit energy mix based on their need and requirements. It will also help in remote monitoring.

**4) Cloud Computing:** Cloud computing is said to be foundation for building smart cities as it integrates and manages city operations from day to day life like water and electricity to traffic to city services like municipality and also all government services like business licensing, vehicle registration, and tax payment which is already taking shape in Dubai.

**5) Building automation:** Building automation through smart home for smart cities is a need of the hour for tech savvy future tenants, where everyone wants to control the home remotely by IT enabled technologies of smart homes especially in the areas of individual quality living experiences like music, lighting and temperature control.

**6) Intelligent waste and smart water management:** Dubai has a very systematic waste and water management system. But still by use of sensing technology in waste containers it can detect waste level, internal temperature and also can send notification to empty it so it can be easily predicted what needs to be collected and when and it can also help the waste collecting vehicles to predict routes according to quantity of

waste collected in different containers, which can save both the fuel and time. Water is life and for Dubai any leakage of water is not accepted. By implementation of smart water meters it will be easy to identify and report any water leakage and any water use violation. Masdar City has made many strategies for using waste water for micro irrigation.

### Conclusion

Smart city projects in Dubai aim to achieve the quality of life for everyone be they employee or employer, mother or child, public or private sector. The government of Dubai is trying to use every bit of information by converting it into knowledge by latest technologies for developing a strategic framework effective and efficient utilization of resources by making its economy, people, government, mobility, environment, living, education and health, smart.

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# Shopping Satisfaction of Business Travelers: An Exploratory Study in Dubai

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## Abstract

The United Arab Emirates (UAE) is a very popular destination for business travelers who attend business meetings, conferences, exhibitions and incentive travel programs. There are several events and exhibitions that are being organized throughout the year in Dubai for companies that look for potential partners to market their products in the international markets. When the business travelers visit Dubai, they also indulge in shopping for themselves and for their kith and kin and hence contribute to the growth of the local retail industry. Tourism literature has given only very limited attention to research on business travelers' characteristics related to shopping behavior. Our research focuses on business travelers' shopping behavior and their shopping satisfaction in Dubai. The findings of this exploratory study would provide information that can help local retailers identify business travelers as a potential target market and use in their marketing strategies.

**Key words:** Business travelers, Shopping behavior, Shopping satisfaction, Dubai

## 1. Introduction

The United Arab Emirates (UAE) is a very popular destination for business travelers. Specifically, UAE is one of the top 10 ranking countries that attracts international business travelers and Dubai is one of the top 10 ranking cities in the world which has experienced 10% growth in the visits of business travelers during the year 2010-11 (Euromonitor, 2012). The business travelers' visit to Dubai is going to increase further as it has recently won the bid to host the prestigious Expo 2020. The business travel and tourism means the travel and tourism carried out by people who attend business meetings, conferences, exhibitions and incentive travel programs. An interesting aspect of business travel and tourism is that it contributes greatly to the economy of the country in terms of contributing to GDP and also to the other industries such as hospitality, leisure, retail, etc.

There are several events and exhibitions that are being organized throughout the year in Dubai, for companies that look for potential partners to market their products in the international markets. Dubai World Trade Center (DWTC), which was inaugurated in the year 1979, plays a huge role in promoting international trade in the Middle East region. International trade promotion facilitated by DWTC is considered to be one of the important reasons why today Dubai is recognized as a leading global economic center in the same league of cities like Singapore, Hong Kong, London and New York. DWTC has the region's largest complex to facilitate events and exhibitions. The events and exhibitions cover almost all the possible products that are being manufactured and looking for international markets. The following sample list of events and exhibitions that are being organized in Dubai provide us with an idea about the products that are being covered - Middle East Rail, Gulfood, UAE International Dental Conference and Arab Dental Exhibition, Middle East Electricity, Index, GITEX, GETEX, Light Middle East, Gifts and

Premium, Middle East Concrete, International Trade Fair for Plants, Sweets and Snacks Middle East, The Middle East and Africa Seafood Exhibition, Dubai International Jewellery Week Exhibition, Middle East Natural & Organic Products Expo, Media & Marketing Show, Indian Property Show, Arab Health Exhibition & Congress, Gulf Educational Supplies & Solutions - GESS, Dubai International Boat Show, Dubai International Pharmaceuticals and Technologies Conference and Exhibition - DUPHAT, Dubai International Wood & Wood Machinery Show, Dubai Entertainment, Amusement & Leisure Expo - DEAL, Aluminium Dubai, Airport show, Beauty World Middle East and Wellness & Spa Exhibition, China Sourcing Fair, Auto-mechanika Middle East, Hardware & Tools Middle East, Dubai Sports World, etc. (Dubai World Trade Center web site).

When the business travelers visit Dubai for meetings, conferences and exhibitions, they also indulge in shopping for themselves and their kith and kin and contribute to the growth of the local retail industry. Encouraging shopping behavior increases tourist expenditure at destinations even though the purpose of the visit is business and thus provides direct benefits for the local economy. However, tourism literature has given very limited attention to research on business travelers' characteristics related to shopping behavior and satisfaction.

In this paper, we focused on business travelers' shopping behavior and specifically their satisfaction in shopping and tourism in Dubai. The results provide information of business travelers' shopping preferences and shopping satisfaction in Dubai. Furthermore, the study reveals business travelers' perception of tourism in Dubai. These findings will be useful for the retailers in Dubai to design their marketing program by considering the needs and wants of business travelers. The findings of the study will also be useful for destination marketing professionals and policy makers to design activities related to shopping in Dubai and also tourism in general in Dubai.

## 2. Literature review

There are a few studies in travel and tourism literature regarding business travelers' behavior especially in the area of air travel consumption (Graham, Garrow and Leonard, 2010; Mason, 2001; Harris and Uncles, 2007) and hotel services (Scanlan and McPhail, 2000; McCleary, Weaver and Lan, 1994). With respect to air travel consumption, for example, Mason (2001) studied marketing of low cost airline services to business travelers and found that short haul business travelers are price sensitive and among them those who use network carriers buy tickets from low-cost airlines.

Hankinson (2005) contended that destination branding studies have been conducted from the perspective of the leisure tourists and identified destination brand images from a business tourist perspective and tested their relationship with perceived quality and commercial criteria. Lei (1998) compared shopping behavior of business travelers with leisure travelers in airports and found that business travelers are less price sensitive than leisure travelers. Also, the leisure travelers

were found to be making more impulse buying than business travelers. Kerr, Lazarevski and Dolnicar (2009) focused on how to convert the involuntary first time business traveler to leisure traveler to the chosen destination of an Australian city, Wollongong. Beioley (1991) compared the expenditure pattern of business tourists with holiday tourists and found that business tourists expenditure to be more than that of holiday tourists. He identified that the business tourism increased faster than other types of tourism and opined that business tourism is less seasonal and demand fluctuation is less in relation with holiday tourism.

Extant research has established that business travelers suffer from physical health problems (Rogers, 1998) and high levels of stress psychological disorders (Dimberg et al., 2002). These problems arise out of social, job, and emotional concerns such as the impact of the traveling on the family, workload upon return, and sense of isolation (Striker et al., 1999). Shopping at the destination is one such activity that helps the business travelers to relax after their stressful work schedule at the destination. However, it appears that extant tourism literature has provided limited attention to the area of shopping behaviors of business travelers.

## 3. Methodology

A survey was carried out to explore the shopping behavior of business travelers who attended meetings, conferences and exhibitions in Dubai during 2012-14. A self-administered questionnaire that includes various aspects of shopping behavior, shopping satisfaction and perception on tourism factors was prepared. The survey was executed using both printed and online format of the questionnaire. There were 71 respondents who participated in the survey and the respondents were selected by convenience sampling method. The respondents were asked to tick the appropriate answers from the given choices.

## 4. Analysis and Discussion

The collected data from the survey was subjected to basic percentage analysis which would provide insights on the business travelers' shopping behavior in Dubai. The profile of the respondents is presented in Table 1. The majority of the respondents who participated in the survey were male; with respect to travel frequency of the travelers, around 42% of travelers visit once a year mostly to attend annual trade exhibitions and conferences related to their industry. More than 50% of the business travelers visit Dubai for participating in exhibitions organized in Dubai followed by business meetings. Participating in exhibitions helps them to maintain relationships with their clients and also to evaluate the current business environment and market trends. The business travelers visit Dubai for business meetings essentially to visit their trade partners, importers and retailers to encourage business and maintain existing business relationships. Some business houses have their local branch office and employees visit often to manage business.

Table 1: Profile of respondents

Parameter	Percent
<b>Gender of the respondents</b>	
Male	76.06
Female	23.94
<b>Frequency of visit to Dubai</b>	
Every month	7.04
Every 3 months	15.49
Every 6 months	21.13
Every year	42.25
Every two years	14.08
<b>Purpose of visit</b>	
Exhibitions	56.34
Business Meetings	35.21
Seminars and conferences	8.45

Table 2: Preferences of business travelers

Preferences	Percent
<b>Preferred time for shopping</b>	
Morning	4.23
Afternoon	4.23
Evening	49.30
Night	19.72
No specific time	22.54
<b>Time spent in shopping</b>	
Less than 2 hours	23.94
2-4 hours	60.56
Half day	12.68
Full day	2.82
<b>Frequency of shopping</b>	
Almost Every day during stay	28.17
Once in Week	23.94
Once in Whole duration of stay in Dubai	47.89
<b>Preferred goods for shopping</b>	
Personal Care	25.4
Apparel	73.2
Household/ furnishing	2.8
Gift / Souvenirs	59.2
Jewelry	22.5
Baby Products	5.6
Food and eatables	18.3
Mobile/ TV/ electronics	22.5

#### 4.1 Shopping preferences

The shopping preferences of business travelers is presented in Table 2. Most of the business travelers prefer to shop in the early evening time (4.00 - 8.00 pm). Around 48% of them go shopping once during their whole stay in Dubai. This reinforces that business travelers are different from travelers who are visiting for leisure. Travelers who are staying more than a week prefer to go every week for shopping. Around 60% of travelers spend 2-4 hours of their time for shopping. 24% of travelers spend less than 2 hours to complete their shopping activities. Around 9% spend half a day for shopping. Full day shoppers are around 3%. This clearly illustrates that time is the major constraint with the business travelers for their shopping activities. With respect to preferred items for shopping, most travelers prefer to buy Apparel followed by buy Gift / Souvenirs. 20-25% of respondents preferred to buy personal care products, jewellery and electronic products like television, mobile phone etc. Among the listed items, it is found that household/furnishing items are the least preferred item in their shopping list.

#### 4.2 Shopping satisfaction in Dubai

The business travelers' satisfaction on shopping in Dubai was measured on various attributes of evaluation such as product style, product variety, product quality, price, service quality, store environment and decoration, visual merchandising, store lighting and music and store location. These satisfaction attributes were measured on a 5-point scale wherein '1' denoted 'extremely dissatisfied' and '5' denoted 'extremely satisfied'. The mean rating of satisfaction attributes of all 71 respondents is shown in Table 3. Broadly, all the attributes of shopping satisfaction were rated above mid point '3'. Among all these attributes, satisfaction towards store environment and decoration of the retail stores in Dubai was rated exceedingly high with a mean rating of 4. Satisfaction towards price was rated the lowest with a mean rating of 3.4. The remainder of all other attributes have been rated close to the mean rating 4.0.



Furthermore, to better understand and derive more insights into the data on business travelers' satisfaction toward shopping in Dubai, we performed Chi<sup>2</sup> test using IBM SPSS 20.0. We performed Chi<sup>2</sup> tests to explore the effect of various attributes of shopping satisfaction in Dubai on time spent in shopping during their stay in Dubai and money spent on shopping. In these Chi<sup>2</sup> tests, attributes of shopping satisfaction are used as independent variables and time spent in shopping and money spent on shopping are used as dependent variables. The results are provided in Table 3.

In the first Chi<sup>2</sup> test with dependent variable of time spent in shopping, the shopping satisfaction attributes such as product style, product variety, service quality, store environment and decoration, visual merchandising and store location were found to have significant effect on time spent in shopping with p-value <0.01 level. Similarly, the satisfaction on product quality was found to affect business travelers' time spent in shopping with p-value <0.10 level. This finding implies that the above mentioned satisfaction attributes drive the business travelers to increase their shopping time in Dubai. This finding implies that the marketing managers of retail companies in Dubai are required to enhance business travelers' satisfaction on these attributes to enhance their time spent in shopping. The satisfaction towards price does not appear to have significant effect on their time spent in shopping.

In the second Chi<sup>2</sup> test with dependent variable of money spent in shopping, interestingly, all the attributes except satisfaction towards price have no significant effect on time spent in shopping. The satisfaction towards price was found to have

significant effect on money spent in shopping with p-value <0.05 level. This finding implies that the business travelers increase their expenditure on shopping when they have satisfaction towards price. The managers of retail companies can derive ideas about the business travelers' shopping expenditure.

#### 4.3 Tourism in Dubai

Business travelers' perception on various factors that would influence Dubai to be viewed as a destination for tourism was measured on a five item semantic differential scale with '5' denoted as 'very good' and '1' denoted as 'very poor'. On all these factors, business travelers' perception was found to be above the mid point. Among the business travelers' safety and security was found to have the highest rating. Availability of quality hotels and cleanliness and hygiene also received a very good rating of 4.0. We further analysed the perception data by relating with frequency of visit by performing Chi<sup>2</sup> tests. The aim of the Chi<sup>2</sup> tests is to test the hypothesis that business travelers' perception about Dubai as a destination for tourism on various factors that have a positive effect on their frequency of visits to Dubai. Specifically, we wanted to identify the factors that help the business travelers to visit Dubai more. In these tests, we have included frequency of visits to Dubai as dependent variable and all the factors for tourism as independent variables. The results of these tests are provided in Table 4. Through Chi<sup>2</sup> tests, we found that transport quality in Dubai has a significant effect on business travelers' frequency of visits to Dubai with p-value <0.01 level. Furthermore, business travelers' perception toward facilities for children and/or older people was found to affect their frequency of visits to Dubai with p-value

**Table 3: Satisfaction on attributes for shopping in Dubai**

Satisfaction attributes	Mean rating	DV: Time spent in shopping		DV: Money spent in shopping	
		Chi <sup>2</sup>	p-Value	Chi <sup>2</sup>	p-Value
Product style	3.7	25.93	0.01*	23.55	0.49
Product variety	3.8	30.59	0.00*	25.57	0.38
Product quality	3.9	19.77	0.07***	23.26	0.51
Price	3.4	18.18	0.11	37.66	0.04**
Service quality	3.8	20.68	0.01*	15.97	0.60
Store environment and decoration	4.0	25.04	0.00*	17.82	0.47
Visual merchandising	3.9	49.78	0.00*	23.47	0.49
Store lighting and music	3.9	43.49	0.00*	32.63	0.11
Store location	3.9	26.57	0.01*	18.34	0.79

\* Significant at <0.01 level; \*\* Significant at <0.05 level; \*\*\* Significant at <0.10 level; DV: Independent variable

Table 4: Perception on factors for tourism in Dubai

Factors	Mean rating	DV: Frequency of visit	
		Chi <sup>2</sup>	P-Value
Hotels	4.0	7.36	0.83
Climate	3.1	22.85	0.12
Local cuisine	3.5	12.00	0.74
Easy access from country of origin	3.8	14.35	0.57
Cleanliness and hygiene	4.0	11.03	0.81
Scenery	3.4	14.55	0.56
Beaches	3.5	23.07	0.11
Safety and security	4.2	10.18	0.60
Transport quality	3.8	33.65	0.01*
Tourist attractions	3.7	6.05	0.99
Facilities for children and/or older people	3.5	23.35	0.03*
Easy access to information and / or an easy holiday to arrange	3.7	11.48	0.78

\* Significant at <0.01 level; \*\* Significant at <0.05 level; DV: Dependent variable

<0.05 level. These results establish that these two factors are important in influencing business travelers' frequency of visits to Dubai and other factors found to have no impact on their frequency of visits to Dubai. From business travelers' perspective, among all the factors that influence business travelers' frequency of visits, transport quality of the city and the facilities provided to the children and older people are major reasons for their frequency of visits. This implies that although tourism related factors are not directly related to business travelers' purpose of visiting any country, these factors still are important for the business travelers in building a positive perception about the destination.

## 5. Conclusions

The focus of our study is to explore the shopping behavior and shopping satisfaction of business travelers in Dubai. As mentioned in the literature review section, there is very limited research conducted in this area and our study contributes to the business tourism literature. There are a few studies that indicated that the business travelers' shopping behavior was different to leisure travelers' shopping behavior, however there are no studies to specifically focus on the shopping behavior and shopping satisfaction of business travelers in Dubai. Although, this study has the limitation that the respondents are chosen by following a convenience sampling method which means that the respondents do not fully represent the population of the study and hence the findings cannot be generalized to the population, our study fills the gap in the tourism literature by providing the preliminary information on shopping

preferences and satisfaction of business travelers in Dubai. To summarise, our study found that most of the business travelers visit Dubai at least once a year and most of them go for shopping at least once during their stay. They mostly spend 2-4 hours of shopping. Apparel and gifts and souvenirs tops their list of preferred list of shopping goods from Dubai. Among the shopping satisfaction attributes, store environment and decoration was found to have highest rating. Among the shopping satisfaction attributes, all the attributes except satisfaction towards price has a significant effect in business travelers' time spent in shopping. Similarly, except satisfaction towards price, no other satisfaction attribute was found to have any effect on money spent in shopping. Furthermore, business travelers find Dubai has a high rating on safety and security in comparison with other factors for Dubai as a destination for tourism. Both transport quality and facilities for children and older people have a significant positive effect on their frequency of visit to Dubai. These findings would help the retailers in Dubai to formulate and execute strategies to target the market of business travelers who go for shopping during their stay in Dubai.

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# Examining the Reasons Behind the Success of the Generic Pharmaceutical Companies: The Case of Sudan Market

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## Abstract

**Objectives:** The study was intended to examine the reasons behind the success of a generic pharmaceutical company that has been the market leader in Sudan for more than 10 years, from the perspective of employees and customers.

**Method:** This is an exploratory, qualitative study. Three Focus groups were conducted in February 2014. Each focus group was recorded, transcribed and coded into themes. Thematic analysis was carried out.

**Key Findings:** The study revealed that differentiation was a successful strategy for the generic pharmaceutical company examined. The most important differentiation aspect is the quality of the products. Other aspects include intense branding activities, high quality employees, excellent customer service, and friendly culture.

**Conclusion:** This study concluded that differentiation is an important strategy for the success of generic pharmaceutical companies. The study showed clearly that quality of products is the main concern of healthcare professionals.

**Key words:** Generic companies, innovators, differentiation, quality.

## Introduction

### Generic Drug Industry

The generic drug industry involves sales and marketing of medications that contain the same active ingredients and dosage forms as brand-name drugs manufactured by innovative multinational companies. A key benefit of generic drugs is that they usually cost a fraction of the price of brand-name drugs, as much as 80 to 85 % less according to the US food and drug administration (FDA 2013).

Just a few years ago the generic drug business owned only a small slice of the pharmaceutical drug market. Today generics are a formidable segment of the industry (IMS 2012). There are many factors that explain the growth of the generic pharmaceutical business. Among those factors is the growing number of brand-name drugs that come off patent, the continuous drive by governments and private payers to cut costs and the merger and acquisition (M&A) boom of generics (IMS 2011; CIMB Investment Bank 2012). However, the future of generic business will face challenges in the long term especially prices' erosion and the slowed research and development (R&D) productivity of innovators. Moreover, innovators started establishing the generic part of their business to overcome their empty pipelines.

### A Successful Generic Company in Sudan

The drug company that was investigated in this study is an example of a rapidly growing generic company. It used to differentiate itself from other generics by building reputation about its high quality products as it was the first one in the region to gain US Food and Drug Administration (FDA) and UK Medicines and Health Regulatory MHRA approval for its products. The company performance in Sudan can be considered as an outstanding success as it has been the market leader for more than 10 years (NMPB 2013).

### Business Theories

There are key business theories that might explain the reasons behind the firm's success. Porter (1998) argued that a firm's strengths ultimately fall into one of two headings: cost advantage and differentiation. By applying these strengths in either a broad or narrow scope, three generic strategies result: cost leadership, differentiation, and focus. Porter argued that to be successful over the long term, a firm must select only one of these three generic strategies. Otherwise, with more than one single generic strategy the firm will be stuck in the middle and will not achieve a competitive advantage at all.

Leadership is one of the most popular concepts in today's field of management. Generally, it reflects the ability to lead and exert one's influence on a group. Collins (2001) found that the key ingredient that allows a company to become great is to have a level 5 leader; who is an executive in whom genuine personal humility blends with intense professional will.

Organization climate has been described as one of the organization's success factors. It refers to six key factors that influence an organization's working environment: its flexibility; employees' sense of responsibility to the organization; the level of standards that people set; the sense of accuracy about performance feedback and aptness of rewards; the clarity people have about mission and values; and finally, the level of commitment to a common purpose.

Kotler and Armstrong (2004) argued that firms' financial success depends on marketing abilities. Product loyalty provides predictability and security of demand for the firm and creates a barrier to entry that makes it difficult for other firms to enter the market.

Organizations are increasingly finding that a growing percentage of their profits come as a result of long-term customer relationships. Organizations focused on their customers consistently outperform their rivals. These companies carefully segment their customers, develop a specific value offering for target customers and deliver an outstanding customer experience (Bergeron 2003).

In his classic book *Good to Great*, Collins (2011) says, "to build a successful organization and team you must get the right people on the bus, the wrong people off the bus, and the right people in the right seats and to stick with that discipline: first the people, then the direction." Collins research showed that great companies and organizations do this.

Bessant and Tidd developed the four Ps framework (2011), which described the areas in which innovation can take place including product innovation, process innovation, position innovation and paradigm innovation.

### The Need for the Study

We found no previous studies that investigated the reasons behind the success of generic drug companies. The objective of this research is to identify the key reasons which played a significant role in the success of a generic pharmaceutical company in the Sudan market and to assess the sustainability of this success from employees' and customers' perspective.

## Methodology

### Study Design

This is an exploratory qualitative study that used focus group discussion. The study was conducted in February 2014 in Khartoum State, Sudan.

### Procedure

Three different focus groups were conducted, including company employees, purchasers and prescribers. Each one of the focus groups contained between 6-10 participants.

Purposive sampling was used, with the rationale to sample those who have knowledge that is valuable to the research questions and are expected to provide in-depth information and critical thinking regarding the study. Data obtained was used to provide insight rather than assuming representativeness.

Audiotape recording and notes were used to collect the data in the discussion. The investigator acted as a group leader. Tape recording and notes were transcribed. After that, data was organized by topic and themes, and then coded into categories. Codes were developed using both predefined codes and codes that emerged from the data (a mix of deductive and inductive coding styles).

Data was listened to by a team of investigators to agree upon the categories used. A categorization exercise was carried out by the investigator and an independent investigator. Their categorization was compared and any discrepancies discussed and final categorization agreed.

### Analysis

Content analysis was carried out.

## Results

Key themes emerged as the main reasons behind the company's success in Sudan. Quotations from the three focus groups are provided to illustrate themes and sub-themes. Participants are coded using the word P followed by a number, (e.g. P1, P2, P3, etc).

### Quality of Products

Prescribers identified that the high quality products were the fundamental reason that made them prescribe company products:

"I prescribe its products because of their high quality and effectiveness; this is based on my experience." (P8)

Employees described that high product quality helped them to be differentiated from other generic companies:

We appeared from the start as equivalent to innovators by using a quality message. We used tools such as US FDA, European approvals and our global presence to provide evidence for quality." (P1)

Some of the purchasers identified the high quality of products is one of the reasons behind purchasing the company drugs, beside other reasons such as being highly prescribed, highly profitable and available:

"We purchase its products because they are reliable; they are of high quality and heavily prescribed. The company also gives attractive offers." (P23)

### Branding Activities

The overriding message from employees' focus group is that branding activities is one of the most important reasons behind company success in Sudan:

"I think branding was the most important factor behind our success in Sudan in the last 10 years. All companies targeted customers in their private clinics but we succeeded because we targeted junior staff too." (P4)

Most employees highlighted the role of corporate branding:

"Unlike other companies we promoted our company in our marketing activities. We highlighted its global presence and the quality of its products." (P6)

Also most prescribers considered promotional activities of the company as good to excellent:

"Promotional activities had significant impact. The company has been participating and sponsoring our conferences and society meetings." (P9)

Most of the purchasers believe that promotional activities played a major role in the company success and they revealed that one of the most important factors behind purchasing its product is the heavy prescriptions:

"I consider that 80% of its success was due to its promotional activities." (P18)

### Quality of Employees

All participants in the employees' focus group agreed that one of the key aspects of differentiation was the high quality of employees:

"In the past 10 years, our employees have been the best in the market. Differentiated people were the reason behind products' and company differentiation." (P4)

Most prescribers emphasized that the company medical representatives are distinguished from other companies regarding professionalism and high customer care:

"The company staff is respectful, professional and decent. They are very distinguished and I think they are highly selected." (P8)

Purchasers differed in their views regarding quality of the company's medical representatives. Some purchasers described employees as highly distinguished; some of them found variability in their quality, while others think that there are no differences between its employees and the employees of other companies:



"Its employees are unique; I think they are highly selected. They differ from other companies." (P20)

"There is quality variability among its medical representatives. They are not of the same standards." (P21)

### Customer Service

Employees described that the company has an excellent customer service:

"We used to contribute heavily to the society through drugs donation. This happened many years before the establishment of a corporate social responsibility program." (P6)

Almost all prescribers' focus group highlighted that the company has good to excellent customer service:

"It used to provide free samples of drugs for our patients; this is the main service offered by them" (P8)

Some of the purchasers revealed that the company has good to excellent customer service. Some purchasers believe that the level of the customer service declined recently as the company lost its direct contact with pharmacies by selling to wholesalers rather than direct selling to pharmacies:

"Customer service is good at the level of medical representatives, but the company agents have bad services." (P17)

"Previously it had good customer service to pharmacies, but now the company lost contact with us." (P22)

### Leadership

Some employees believe that management leadership played an important role in the company growth:

"For me, leadership had an effect on our success. We were not the best in the employees' benefits, but we worked hard because our managers behaved as role models for us." (P7)

### Company Climate

Employees think that the company has a family like environment (friendly). It is also highly competitive. This family culture created the feeling of belonging among employees. They became loyal which resulted in sustained success:

"The company had a family environment. Some of us received better offers from competitors but preferred to stay so as not to lose such a favorable environment." (P4)

### Sustainability of Growth

Most employees believe that the company success is sustainable in the future, but all of them stated that there are chal-

lenges that should be addressed:

"I think that the core of success in the past was based on people. We should retain our employees." (P3)

"It is sustainable; theoretically we have a long term plan. We also established a local plant in Sudan." (P4)

Prescribers believed that company growth is sustainable in the future especially if it is going to keep its previous rhythm and ensures its products' availability in the market, especially in the health insurance pharmacies. Prescribers considered that the main obstacle is the economic problems of Sudan and the rising prices:

"I think the company success is sustainable. They should keep their standard of work, and ensure availability of products especially in insurance outlets." (P9)

Purchasers differed in their assessment of the company growth sustainability:

"I think the company success is sustainable. The biggest challenge is the high prices." (P18)

"The company success is not sustainable, due to its current distribution channels by selling to wholesalers. The company lost control of its drugs." (P20)

## Discussion

### Main Findings of the Study

The results of the study identified the main reasons behind the success of the market leader pharmaceutical company in Sudan and explored the sustainability of this success.

The study revealed that the quality of drugs is the main concern for healthcare professionals including prescribers and pharmacists. Almost all participants in the three focus groups emphasized that the quality of products is a key reason behind company success. This result is consistent with what is described by Kotler and Armstrong (2004) that "when customers use a particular brand frequently, they use their past experience about that brand regarding performance, quality and aesthetic appeal".

The company was found to be of good to excellent customer service. Customer-focused has been a culture for the company in Sudan throughout the previous decade. Employees used to be close to their customers with proper follow up and response. Besides offering drug samples, the company used to participate and sponsor medical societies' meetings, symposia and conferences. Organizations are increasingly finding that a growing percentage of their profits come as a result of long-term customer relationships rather than individual sales

transactions. It was found that organizations that focused on their customers consistently outperform their rival (Bergeron 2003).

Previous research shows that customers' satisfaction is a result of product quality, and service quality (Bolton and Lemon 1999; Fornell et al. 1996).

The three focus groups highlighted that the professionalism of the medical representatives was one of the key reasons behind its success. Most participants in the employees' focus group described that the company was highly selective in its hiring process.

Most of the participants in the three focus groups emphasized that promotional activities have been a key factor behind its success. The intense promotion is an execution of the differentiation strategy adopted by the company in Sudan rather than the price leadership strategy that characterized the performance of most generic companies in the market. The company success in Sudan indicated that differentiation strategy is more effective than price leadership strategy for generic companies. This finding is consistent with the literature that highlighted the importance of marketing in firms' success. Kotler and Armstrong (2004) argued that firms' financial success depends on marketing abilities. All business function will not really matter if there is not sufficient demand for products and services. Product loyalty provides predictability and security of demand for the firm and creates barrier to entry that makes it difficult for other firms to enter the market; loyalty also can translate to willingness to pay higher prices. Weerawardena (2003) found that marketing capabilities influence both the innovation intensity and sustained competitive advantage of the firm. The pharmaceutical industry is one of the most advertising-intensive industries (Scherer and Ross 1990). It spends more money in marketing than in R&D (Wittink 2002).

Employees identified that leadership played a role in the company success. Although some academics argue that the effect of leadership is minimal compared to organizational and environmental forces (Lieberson and O'Connor 1972; Salanik and Pfeffer 1977), and some suggest that it is a romantic fallacy to attribute organization success to individual leaders (Meindl et al. 1985), there has been much research over the past two decades showing that changes in leadership are followed by changes in firms' performance (Berrick et al. 1991; Collins 2001; Day and Lord 1988).

Employees described a friendly and competitive organization climate. It is one of the identified themes behind success. This result is consistent with McClelland findings. He found a direct correlation between organization climate and financial results (Goleman 2000).

### Sustainability of Growth

Most of the participants in the employees and prescribers focus groups described that the company success is sustainable in the future. The portfolio and geographic coverage expansion were considered as the main drivers for future success.

Employees and prescribers identified some key challenges including the economic problems of Sudan, the competition for high quality employees, and the emergence of strong competitors in the market. The emergence of a wholesaler's distribution layer was also identified as a key risk.

Unlike employees and prescribers, many purchasers questioned the sustainability of the company in the future.

### Conclusion

The study revealed that differentiation is a successful strategy to adopt by generic pharmaceutical companies. The study showed clearly that the most important aspect of differentiation is the high quality products. It is evident from this study that product quality remains the key concern for healthcare professionals, especially prescribers.

The study also showed that marketing activities are indispensable for the success of generic companies. Other important factors behind the success include quality of employees, organization climate and customer service.

The study showed that the growth is sustainable if the company continues manufacturing high quality products, expands its portfolio, manages the rising prices, re-intensifies its promotional activities, hires good people and adopts direct selling to pharmacies strategy rather than selling to wholesalers.

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# Ghost Employees: The Impact of Emiratization Quotas

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## Abstract

Improving job opportunities for UAE nationals is a major part of the strategic orientation for the UAE government. To achieve this, the UAE has continued to push Emiratization and encourage its nationals to take part in the public and private jobs sectors. As a result of Emiratization, ghost employees have become an emerging and quite serious challenge that the public and private sectors are now dealing with. This paper uses both qualitative and quantitative analytical methods to demonstrate the prevalence of ghost employees in both the public and private sectors using a survey and interviews to analyze different factors that are emerging. The findings indicate that ghost employees are higher in the public sector and caused by Emiratization quotas, followed by family connections/people of influence amongst employees in these organizations. The actions being undertaken have also proven to be insufficient, as the results have failed to be effective. The paper derives a set of policy conclusions that could be adopted to curb existence of ghost workers in different organizations.

## Introduction

Nationalization schemes in the GCC, specifically the Emiratization program and required quota system in the U.A.E, have become the major cause of increased ghost employees. 'These labour laws have resulted in ghost workers; where companies pay locals to stay at home just to have them on their rolls,' (Nagraij, 2014).

According to Chartouni (n.d), 'various companies have been penalized due to frequent practices of fake nationalization employment'. According to ACFE (2014) 'fake nationalization is referred to as ghost employees'.

'There is still high preference of hiring expatriates compared to nationals due to factors such as their high level of commitment to work at relatively lower remuneration compared to the nationals' (Alvarez, 2012). The cost of hiring locals is extremely high particularly for the private sector and has been labeled by many businesses as completely impracticable and uneconomical. Strict labor laws and a requirement to adhere to the quota system have resulted in increased incidences of ghost workers in the UAE.

In this paper we have aimed to investigate with our professor, what is regarded as a ghost employee by senior company employees, how prevalent they are in the U.A.E and what sort of impact the Emiratization quota has.

As Alvarez (2012) argues 'high expectation for Emirati locals of public employment, which by 2014 stood at 94%, high rate of skill mismatch rating 71% and low participation rate ranging below 45% for Emirati nationals are critical factors



encouraging mismanagement in the private sector'. There is also a wide wage gap between public and private sector employment among locals. In addition to the Emirati government's push for Emiratization, quotas are still proving to be difficult to attain by firms, particularly in the private sector. This is mainly due to high minimum wage expectation by nationals. 'The ideology of nationalization and protectionism is becoming regressive to private firms' profitability' (Al-Qudsi, 2005). 'This has therefore remained to be one source of pressure for companies and a major cause of ghost employees in the private sector (Coulom, 2013)'

Our definition of ghost employees for the purpose of this paper is: persons on an organization's payroll who may be real or fictitious but who actually never worked or do not physically work on the premises of, or have never been allocated duties/roles in an organization. This can involve organizations faking personnel or payroll records resulting in generating false paychecks to a ghost worker. It appears there is a tendency for a number of nationals in the UAE who are employed in the public and private sector and failing to undertake their duties as per their work requirements to be pushed into becoming (voluntarily and involuntarily) ghost employees. Poor attendance and high misuse of sick and emergency leave also appears to be another reason in many organizations. Due to the fear of managers believing that if discipline is enforced for such behaviors they may lose the local, ghost employees it seems to have become common in many organizations in the U.A.E. For firms already below the minimum quota, this fear is clearly apparent, although a very delicate topic. One main reason behind this is the difficulty of replacing UAE nationals in the work place we have been advised.

### Implications of Ghost employees on organizations

Despite the Emirati governments push for heavy penalties and offers for attractive incentives to complying companies, in Abu Dhabi alone, companies that are found employing Emirati ghost workers as a way of circumventing the new incentive scheme have recently faced fines up to Dh 20,000 per worker and subjected to punitive charges for labor cards. 'Companies that have continued to miss the 15% threshold have to pay between Dh600 and Dh2000 for labor cards depending on the diversity of their employees' (Salem, 2014). It is also a direct loss for companies and even the government when employees who do not make any contribution to the organization's revenue continue to earn. It is considered demoralizing, demotivating with a heavy emotional impact on other employees, as the culture of teamwork and hard work is lost. This is due to the knowledge that employees know that some of them are paid even when not contributing to the company. According to Bunglawala (2011) 'ghost employee's lead to increased administrative burden and costs of operations for workers resulting to losses or reduced profits'. 'Ghost employees in companies are considered a gateway to unfairness and corruption in organizations' (Salem, 2014).

### Methodology

Primary data was collected from 100 managers and senior administrators currently working (survey conducted in Aug & Sept 2015) in different organizations in the U.A.E. The questionnaires were distributed to the public sector, private sector and semi-government institutions. Survey monkey was used to create, tabulate and develop graphical representation of the gathered data.

A second set of data was collected through interviews. These were to gain additional information and reasoning on sensitive and delicate topics to gain an accurate read on fear, concerns, individual's perceptions and understandings of why ghost employees continue to exist in their organization.

### Hypothesis

The below hypotheses were chosen as all have been identified by managers or senior administrators in the U.A.E as current problems that are often avoided in relation to ghost employees.

" **H1a** The public sector has the highest number of 'Ghost Employees'

" **H1b** The private sector has the highest number of 'Ghost Employees'

" **H2** Most (80% or above) 'Ghost Employees' are listed in company payrolls but they have never actually worked on the premises or been allocated work or any role within the company

" **H3a** The Emiratization quota is the main cause of 'Ghost Employees' in private companies

" **H3b** The Emiratization quota is the main cause of 'Ghost Employees' in public companies

" **H4** Other than the fines/penalties from the government, little is being done to address the issue of 'Ghost Employees'

" **H5** The government's Emiratization quota requirement is the true underlying reason for 'Ghost Employees'

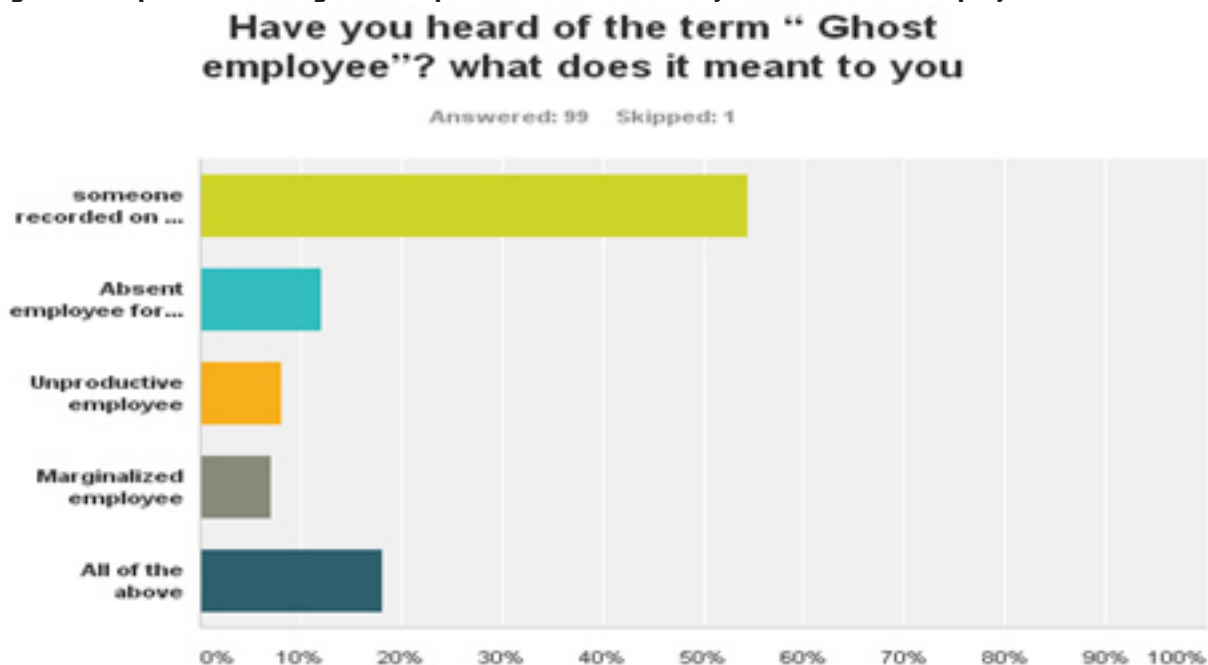
100% of respondents admitted that they were aware of 'ghost workers/employees' in their organizations, 54% of whom believed that ghost employees meant someone being registered in the payroll while they were not actually working for the company. 12% of the total responses selected the option that ghost employees were those who are absent from their work continuously or for a long time.

## Data Analysis

Table 1: Type of Companies for the respondents interviewed

Answer Choices	Responses	
Public sector	58.76%	57
Private sector	7.22%	7
Semi-government	34.02%	33
Other _____	0.00%	0
Total		97

Figure 1. Responses showing what respondents understand by the term 'Ghost Employee'



51.2% believed that the problem is persistent and problematic in approximately 10% of their organizations. 99% however believe they have at least 5 ghost employees in their organization. A real surprising find! 99% of public sector responders and 91% of private sector responders reported having multiple ghost employees.

The primary cause of ghost employees as per the data collected in the survey was Emiratization quota. This was agreed by almost half (48.48%) of the respondents and it was followed by 18.18% who also agreed that the problem of ghost employees was caused by family connections WASTA. Other smaller causes as selected by other respondents include Management issues at 8.08% and poor development plans 8.08% and recruitment with only 1.01%.

Most of the organizations appear not to have taken sufficient actions to eliminate the problem of ghost employees and those that have taken any initiative have not achieved high results. From the respondents, 57/97 answered no to the question as to whether the organization they work for has taken any action towards ghost employees. For the 41.24% who agreed that their organization implemented measures to prevent the issue, only 26 of them agreed that the actions were effective. 71 disagreed and indicated that the actions taken failed.

Figure 2. Causes of Ghost Employees

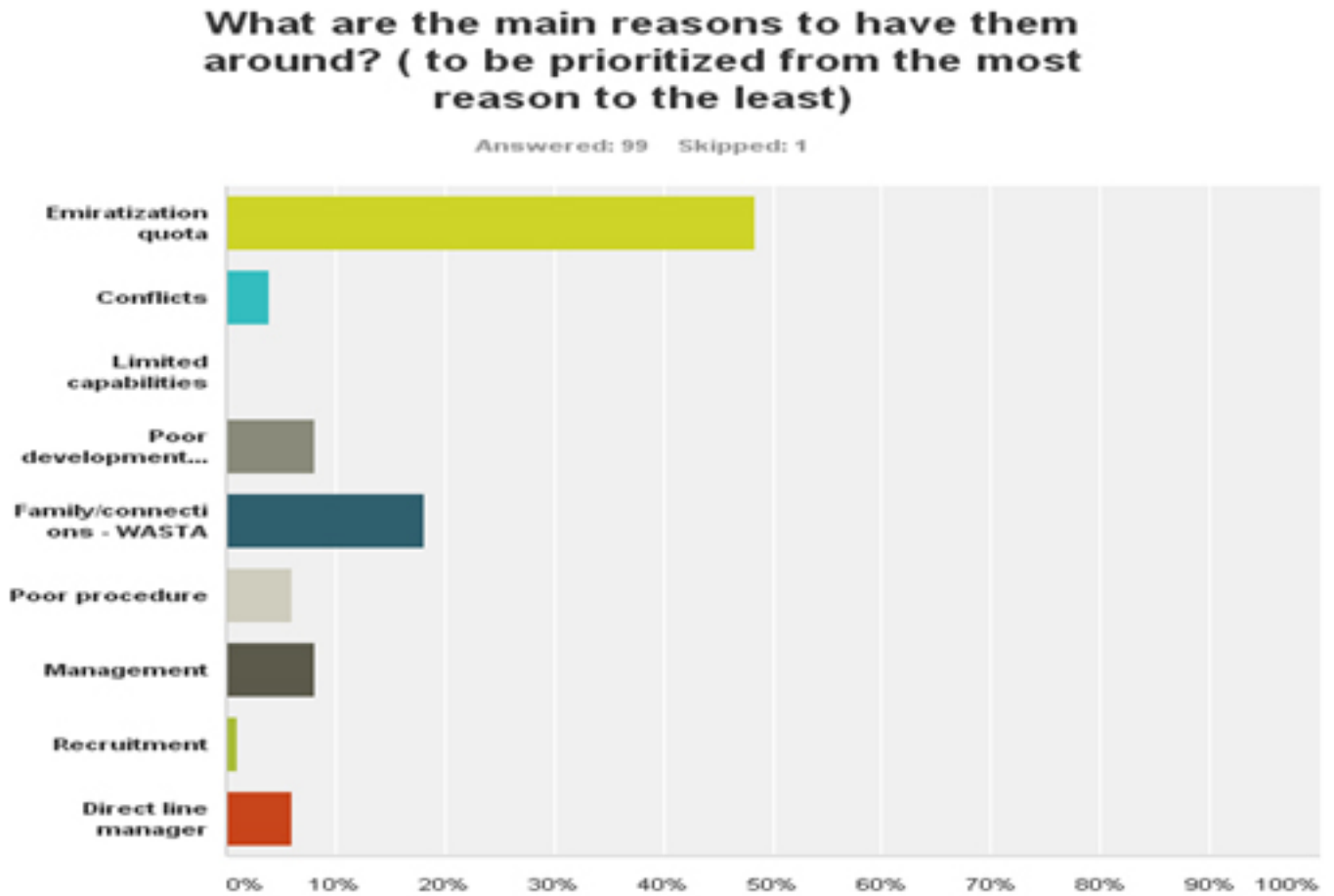
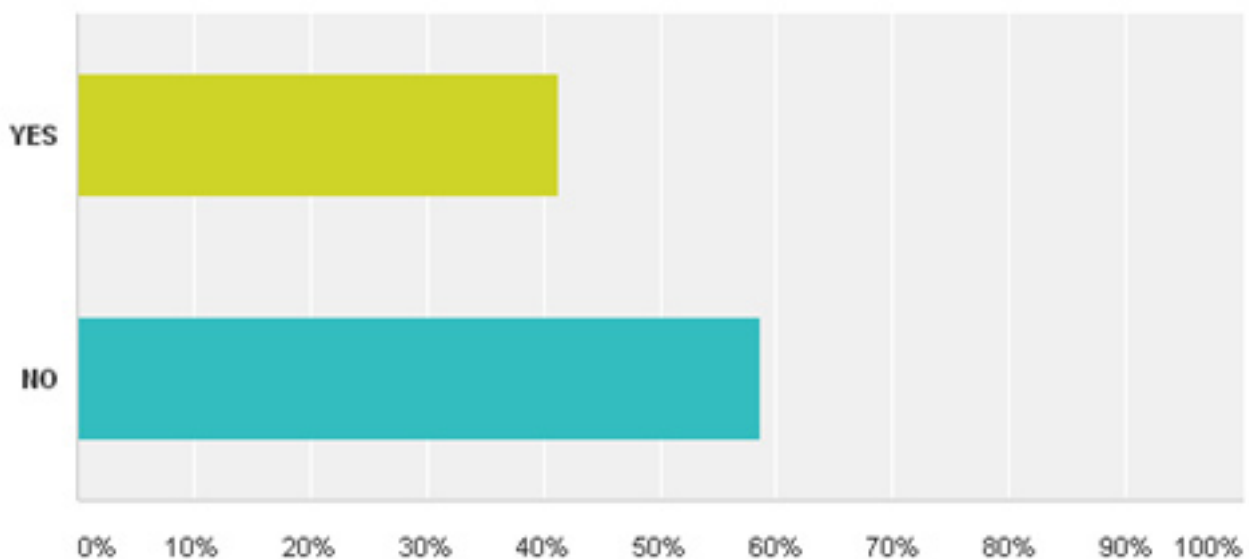


Figure 3. Number of Organizations that have taken action against ghost employees

### Has your organization taken action towards ghost employee?

Answered: 97 Skipped: 3



## Results

'According to the respondents in the statistics presented in this research, the public sector has the highest number of ghost workers' (Coulom, 2013). Like Coulom's research, our first hypothesis H1a, proved to back this up in 2015. However, we would like to add that this is only for between 10-20% of employees. The public sector has a much higher amount of nationals than the private sector. H1b, did not prove true as there was a higher number of ghost employees in the public sector, however, it is important to note that there are less ghost employees in quantity (in comparison to the public sector) but in comparison to the small percentage of nationals, it appears that over 80% of nationals currently employed in the private sector are considered ghost employees. Quite a startling thought for us. With H3a and H3b both confirmed to be true at just under half agreeing Emiratisation quotas were the main cause. This would indicate that the Emiratisation quotas are more of a problem than initially thought and are the main cause of ghost employees.

There is an interesting difference in the sectors however. In the public sector, ghost employees were commonly those who do not contribute or add value in any way to the organization but are visible in the payroll. In the private sector however, it showed it was common for companies to list ghost employees in their payrolls to avoid the fines that are incurred when the required quota is not met. Both sectors appear to have ghost employees that we have referred to as marginalized employees. These are the group of locals who once employed only appear at work for a short and then disappear. Instead of firing them, for the sake of meeting the quota requirements, or lack of aggravation, the companies agree to keep paying them but in a real sense they are not making any real, let alone valuable contribution to the organization. They are just on documents and make few appearances. It would appear light positions such as advisors, consultants and fellows are created to keep them on the payroll. Interestingly H2 was not proved true, which was a surprise. With only just over half interpreting 'ghost employee' as those listed in company payrolls but never worked on the premises or allocated work. It appears, absent, marginalized and unproductive national employees are also a problem and potentially on the increase. Many managers and senior administrators seem to also regard these as ghost employees. Remarkably though when we look at H4, only 41% responded saying that their organization had tried to tackle this problem and less than half of those agreed the action was successful.

When we were trying to answer H5, we had to confirm this as true. It appears ghost employees originated from the government penalties to enforce quotas. However, many respondents also informed us via interview that many still prefer hiring expatriates largely due to their higher commitment to work at lower remunerations compared to the nationals. Private sector employers felt strongly that the cost of hiring locals is around 45% higher than hiring expats, making businesses unviable. Additional comments were that locals also lack the technical skill set needed for high-end jobs.

The private sector highly relies on competence to be able to deliver its efficiency to the market. This can only be possible through employing competent workers with the required skills and experience. However, the Emiratisation quota system is compromising this objective. This indicates it is due to lack of available skilled nationals and professionals in various sectors. Quotas have forced private and public companies to hire incompetent Emirati nationals who fail to possess the qualifications or skills required for particular jobs. 'As much as the UAE government has continued to address this issue through introduction of various higher learning institutions and academic excellence centers, there are still low numbers of actual experienced professionals in the UAE job market' (Alvarez, 2012). Feedback indicates the few locals who are available also have a negative attitude towards working with/in the private sector, as they prefer government jobs. These mixed challenges are contributors to the ongoing ghost employee issue in the UAE. Harmonization of salaries between the public and the private sector for jobs with similar requirements would help to reduce the pressure on the Emirati government and companies alike. So although H5 is true, we believe the true root cause of ghost employees is reiterated by Nagrij (2014) that 'most of these schemes (Emiratisation) in the past have failed to achieve the desired outcome even after years of implementation, and can only be successful when accompanied by wage reforms, and skill match up by locals' and Coulom (2013) 'this will require an enhanced strategic employment and growth structure, which shall operate as a platform to harmonize issues emerging amongst researchers, policymakers and employers across all economic sectors in the UAE'.

## Conclusion

This paper confirms the existence of ghost employees in the UAE in both the private and public sector. Although there are multiple newspaper articles and a lot discussed between senior managers and administration, very few academic papers have been produced on this topic. This paper also highlights the fact that although penalties, fines, points etc when not meeting Emiratisation quotas have increased, ghost employees continue to rapidly increase. 99% of the 100 organizations surveyed confirmed they had ghost employees of one interpretation or another. This begs the question: is fining firms the answer?

It appears there is a need to admit and recognize ghost employees as a critical issue in the UAE economic sector and that it has significant cost implications in addition to negative motivational, emotional and equity impacts on national productivity, along with the general growth and development of the working population. This therefore calls for further investigation and analysis of the extent to which this has spread and the actual impact on national employment, organizational goals and the government's strategic success with the Emiratisation scheme. This could provide a more enlightened analysis that the government and other relevant stakeholders can use to help to eliminate the causes of ghost employees.



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# How to read a scientific book: Introducing a well-planned approach

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## Abstract

Reading a scientific book can be one of the most challenging endeavors especially for young students in non-scientific disciplines. Therefore, reading a scientific book needs a careful and well-planned approach. The chief aim of the present article is to outline such a careful and well-planned approach.

**Key words:** Scientific book, well-planned approach for reading

## 1. Introduction

Reading a scientific book can be a challenging endeavor especially for young students in non-scientific disciplines. The reason for this is clear. Unlike a well-written novel which can attract its readers in a way that they would like to continue their reading for hours and hours, scientific books usually do not inherit such attraction for those whose interests are not purely science. Therefore, reading a scientific book can require a careful and well-planned approach. Otherwise, it would be very difficult and in some occasions, very painstaking to read such a book. In what follows I am going to outline such a careful and well-planned approach.

### Introducing a well-planned approach

The well-planned approach consists of three interrelated consecutive phases which include: Initial phase, which is getting familiar with the book, Central phase, which is reading the book and Final phase, which is summarizing and appraising the book.

#### Initial phase: getting familiar with the book

As soon as you get a copy of your intended book take a quick look at it. Begin from its title, its author(s), its edition, its publisher and its time of publication. This very first look gives you very important information about the topic of the book, its timeliness, its author(s) and their expertise and the way they have written and published their book. It is also noteworthy to comprehend that to what extent the publisher is renowned in the scientific field.

Then take a quick look at its table of content to get familiar with the content of the book and then think about the areas that each chapter is going to cover. In the next step, go through the whole book, page by page for a quick perusal. Read titles of each chapter and their sub-titles. Look at the pictures, tables, diagrams, maps, etc.

You should also go through the subject index of the book to better comprehend which subjects are covered within the book. Finally, take a quick look at the references list of the book to find out whether there are some references which you have already read.

### Central phase: reading the book

You are now in a position to have a rather precise estimate on how much time you should devote to read the whole book. Let us imagine you need to allocate eight hours for reading the book. In the next step it is better to divide your devoted time into smaller sections.

For example, you can divide your eight hours into sixteen half hour sections. The reason for doing that is to read half an hour and then take a small rest. This helps you to stop reading for say five to ten minutes for resting while refreshing yourself about what you have read so far.

Then, based on your plan, start reading the book. It is highly suggested to highlight the important sections as you read. You might even write a quick note in the margin of the book. Remember to use a pencil if you have borrowed the book. You might also carry out some background reading if you come across sections which are difficult to comprehend.

As soon as you have finished reading the book according to your plan, take a rest while refreshing yourself about the content of the book. Ask yourself is there a section that still you do not comprehend? If yes, you should carry out some more background reading. If no, you have successfully completed the second phase of reading the book.

If you read the book for examination purposes, you might need to read it once more or even twice. Otherwise, you can go to the third phase of your reading which is summarizing and appraising.

### Final phase: summarizing and appraising the book

When finishing reading the book it is highly suggested you summarize the most important messages of the book. For doing so you should go through your highlighted sections and quick notes. Write the most important messages of the book in your own words and try to not copy the text from the book. Keep your summary in a safe place. In future when you need to refer to the book again, read your summary first as it gives you the essence of the book.

Similarly, when finishing reading the book it is highly suggested you critically appraise it. Although this might be a daunting task for students it is absolutely necessary that after finishing a scientific book, no matter who we are e.g. undergraduate or postgraduate students, you try to appraise the book as much as you can. For doing so you should also go through your highlighted sections and quick notes reading some background literature and try to ask yourself the following questions:

- Could any parts of the book be written in a better format?
- Did the author(s) miss some important points?
- Did the author(s) miss some important references?
- Considering the publication year, did the author(s) provide its readers with the newest/latest statistics/data?
- Considering the publication year, did the author(s) cite the newest/latest references?

### Conclusion

Since reading a scientific book needs a careful and well-planned approach, in the present article a well-planned approach which consists of three interrelated consecutive phases is introduced. These phases include: Initial phase: getting familiar with the book, Central phase: reading the book and Final phase: summarizing and appraising the book.

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# Illegal blood banks are causing morbidity and mortality due to unsafe blood transfusions in Pakistan - increasing the number of regular unpaid volunteer donors is the solution to this problem

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## Background

Blood is most commonly donated as whole blood and is collected with an anticoagulant. Donated blood is usually subjected to processing after it is collected to make it suitable for use. Collected blood may be used as whole blood or may be separated into blood components by centrifugation: red blood cells, plasma, platelets, albumin protein, clotting factor concentrates, cryoprecipitate, fibrinogen concentrate, and immunoglobulins (antibodies). All donated blood must be screened for HIV, Hepatitis-B and Hepatitis-C. In addition, platelet products should also be tested for bacterial infections due to its higher inclination for contamination due to storage at room temperature.

## Introduction

Transfusion of blood and blood products helps save millions of lives every year. It can help patients suffering from life-threatening conditions live longer and with higher quality of life, and supports complex medical and surgical procedures. It also has an essential, life-saving role in maternal and child care and during man-made and natural disasters. However, in many countries, demand exceeds supply, and blood services face the challenge of making sufficient Safe blood available. An adequate supply can only be assured through regular donations by voluntary unpaid blood donors.

## Situation in Pakistan

In many developed countries, national blood supplies are based on close to 100% voluntary unpaid blood donations but in Pakistan, most of blood supplies are dependent on family donors and even paid donors because relative and friends avoid donating blood and people prefer to buy blood from private blood banks. There are innumerable illegal outlets those do not worry much for blood screening and proper storage. Professional blood donors are usually drug addicts or very poor people who sell blood for money.

Pakistan's annual blood requirement is approximately 1.5 million bags, with 40% of the demand being met by the public sector.[1] About 80% of private sector blood transfusion takes place in the major cities, including Karachi and Lahore. Blood transfusion services in Pakistan are mostly hospital-based. There are nearly 170 public and about 450 private blood banks in the country.[1]

Pakistan has a high burden of thalassaemia. According to estimates, 5000 children are born with thalassaemia each year and 70 000 patients are registered with the disease. [1] Most services for these patients are provided by private blood transfusion services run by nongovernmental organizations such as Fatimid Blood Transfusion Services and the Hussaini Blood Bank.



### Blood donation

Over 90% of total blood transfused in Pakistan is donated by the family, friends and relatives of patients. However about 10%-20% of the blood supply is still donated by professional donors. The concept of voluntary non-remunerated donors is mainly absent due to the lack of a blood donor recruitment and retention strategy.[1]

### Blood storage

Proper blood storage and transportation facilities are not available in many of the country's public and private sector hospitals, leading to the waste of a significant proportion of the collected blood.

### Blood screening

In Pakistan, most blood banks in the public sector screen blood for HIV and hepatitis B and C as standard policy. WHO recommendation for Pakistan also include syphilis and malaria testing in the basic blood screening procedures. Experts also suggest for screening of Hepatitis-A, Hepatitis-D and Dengue because of high incidences of these diseases.

The most unfortunate thing is the presence and use of sub-standard / fake Testing Kits for screening of blood donors. It makes screening process unreliable.

### National Blood Policy and Strategic Framework

Government of Pakistan has Safe Blood Transfusion Program. [2] There are six Blood Transfusion Authorities in Pakistan, Islamabad, Punjab, Sindh, KPK, Baluchistan, and AJK. All these six authorities have definite legislations for their provinces. These authorities are supposed to register and license all the blood banks in private sector and government hospitals.

Government hospitals usually have strict standards for blood screening but these may have problems of proper storage. Majority of problems are seen in private sector where standards of blood screening and storage are not adequate. Unfortunately, despite all these frameworks and legislations, private blood banks are openly and freely selling unsafe blood throughout the country.

### World Blood Donor Day 2015 celebration in Pakistan

World Blood Donor Day [3] was celebrated in Pakistan on 14th June, 2015. The theme of this year's campaign was "Thank you for saving my life". It focused on thanking blood donors who save lives every day through their blood donations. The activities included commemorative events, meetings, publication / dissemination of relevant stories on media outlets, scientific conferences, publication of articles on local and national levels.

### The solution towards safe and quality blood transfusions in Pakistan

WHO has set a goal for all countries to obtain all their blood supplies from voluntary unpaid donors by 2020. To ensure that Pakistan achieves this goal, we have to do the following very urgently.

- 1) Implication of Pakistan Safe Blood Transfusion Program in its real essence.
- 2) Legislation frameworks do exist. We need to implement these laws without any concession and undue relaxation. Only those institutions should be given license those meet the standards for Safe Blood Transfusion Criteria.
- 3) Strict monitoring and regular evaluation of licensed blood banks to ensure safety standards.
- 4) To raise awareness about the importance of safe blood transfusion at community, district, provincial and national level
- 5) To raise awareness about volunteer unpaid blood donations.
- 6) To strongly encourage more people all over the country to donate blood voluntarily and regularly with the slogan "Give freely, give often. Blood donation matters."
- 7) To create wider public awareness of the need for regular donation because of the short shelf-life of blood components.
- 8) To focus attention on donor health and the quality of donor care as critical factors in building donor commitment and a willingness to donate regularly.
- 9) To persuade ministries of health to show their appreciation of regular voluntary unpaid donors.
- 10) To persuade the government to provide adequate resources to provide quality donor care.

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# Fasting and its myths; fasting is a Powerful Healing; take the opportunity and make a fitness plan happen.

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## Abstract

In the ancient era, ancestors grew up in a world of stress and scarcity, where food is not available and fasting was common, where the body developed a defense mechanism to cope with that and store food and this life had a blue print of wellbeing and longevity.

Fasting reduces oxidative stress, enhances cellular repair processes and appears to be a key strategy for anti-aging and longevity.

However when food is in abundance, this results in elevated insulin levels, increased fat storage and increased oxidative stress and inflammatory conditions in the body. Insulin also enhances cellular division, which is a risk factor for cancer formation.

### Venue and concept, and the actual meaning of Ramadan

Ramadan is the months for rebuilding our spiritual strength by taking part in direct ibada.

Ramadan is a month where believers learn to exercise self-control. Ramadan, the major fast (Sawm) of the Islamic year, falls in the ninth lunar month. Ramadan is the ninth month of the Islamic calendar, when Muslims fast during daylight hours.

Ramadan commences and ends with the sighting of the new crescent moon, where it marks the beginning of the ninth month of the Islamic lunar calendar. It lasts 29 or 30 days - the end date will be revealed through another official lunar sighting in the last week of the month.

Ramadan is also defined by extra congregational prayers performed nightly after the evening Isha prayers (Taraweeh).

Ramadan is the most important month of the year. It is the month that the believers await with zeal. At the beginning of Rajab --- two full months before Ramadan --- the Prophet Mohammad, used to supplicate thus: "O Allah! Bless us during Rajab and Shaban, and let us reach Ramadan (in good health)."

During Ramadan the believers get busy seeking Allah's mercy, forgiveness, and protection from Hellfire. This is the month for renewing our commitment and re-establishing our relationship with our creator; Allah SWT. It is an opportunity to strengthen the Iman, stay away from sins, purify the heart and the soul, and to remove the evil effects of the sins committed by mankind.

The fast is not merely of the body, but essentially that of the spirit as well.

The month-long fast involves abstinence from food, liquids, smoking, and sexual intercourse between the hours of sunrise and sunset. Sexual intercourse during fasting is prohibited and is a great sin. Those who engage in it must make both

qada' (make up the fasts) and kaffarah (expiation by fasting for 60 days after Ramadan or to feed 60 poor people for each day of fast broken in this way). According to Imam Abu Hanifah, eating and/or drinking deliberately during fast also entails the same qada' and kaffarah.

Also the tongue must be restrained from backbiting and gossip. The eyes must restrain themselves from looking at unlawful things. The hand must not touch or take anything that does not belong to it. The ears must refrain from listening to idle talk or obscene words. The feet must refrain from going to sinful places. In such a way, every part of the body observes the fast.

Unfortunately at night it has turned into a feast in many Arab countries, each of which has its favorite special Ramadan foods and recipes to celebrate and eat in excess.

Furthermore, fasting should be undertaken with spiritual intention (Niyah), which should be renewed each day before dawn. In Ramadan it is important to exercise self control (including food, sleeping, sex and the use of time) and to train the self to refrain from using mean and call words; such insults, evil deeds such as insult, swear words, lying, deceiving and covetousness which all negate (abolish) the value and meaning of fasting. In addition avoiding ill manner, ill speech, arguments, loss of temper and malicious behavior is important.

One should try to discipline oneself morally and ethically. The whole point of the fast is to demonstrate complete submission to God and keep the mind focused on a spiritual level. The fasting commences each day at dawn, immediately prior to which an early morning meal; Suhoor, must be served.

The day's fast is broken with a small meal as our prophet Muhammad called for, which is called as iftar, and must be taken as soon as possible after sunset and Adan (mosque calls for prayer).

Following Ramadan there is a three-day festival of prayer and feasting known as 'Al Id-Fitr, where Muslims dress in their best and visit friends and relatives as a sense of community prevails.

Ramadan is a special month because it is the month in which the Holy Quran was revealed to the Prophet Mohammed in the last ten nights of Ramadan. Also the gates of Heaven are open and the gates of hell are closed and devils are chained up in hell. Verses of Al Baqarah 2:185- the month of Ramadan in which was revealed the Quran, guidance for mankind, and clear proofs for guidance and the criterion (between right and wrong).

It was narrated by Abu Hurayrah that prophet Mohammad said, when Ramadan comes, the gates of paradise are opened and gates of hell are closed and the devils are chained up (agreed upon).

It's stated that the night where by Quran was revealed to our prophet was on the 27 day of Ramadan (Lailat ul Qadr), and to stand in prayer on this one night is said to be better than a thousand months of worship.

Moreover, Ramadan is regularly called 'month of the holy Quran', and Muslims make efforts to recite as much of the Qur'an as they can during the holy month. In fact, most mosques will recite one thirtieth of the Qur'an each night during the Taraweeh prayers.

Fasting is one of Islam's five main pillars which is of paramount significance (the first pillar is testifying the belief in one God and the Prophet Mohammed as His Messenger, the second pillar is praying five times a day, third is fasting, fourth is giving charity or "Zakat" and the fifth is completing the pilgrimage to Mecca (Hajj) for those who are able.

The Prophet (peace and blessings be upon him) said that fasting is a shield. It protects a person from sin and lustful desires.

It is mandatory for all Muslims upon reaching puberty, as long as they are mentally and physically sound to fast and pray if they believe in Allah and the afterlife. The elderly and chronically ill are exempt from fasting; however, it is incumbent upon them to feed the poor instead if they possess the financial means.

To sum up, nearly all Muslims try to give up terrible habits during Ramadan, and some will try their utmost to become better Muslims by praying more or reading the Qur'an. Thus Islam is regarded as a way of life for all people when followed properly as Allah SWT asked us for.

### **The actual meaning of Ramadan**

Ramadan- during which eating and drinking is forbidden from sunrise to sunset- and is observed as a period of fasting to commemorate the first revelation of the Quran to the prophet Muhammad. People are unaware of the true nature of fasting. Fasting is not just the state of remaining hungry and thirsty. The less food is consumed the greater is the purification of the soul and the development of the powers of inner vision. God's purpose is that you should reduce one kind of food (physical) and increase the other kind (spiritual). The person fasting must remember that the aim is not simply to remain hungry; he should be occupied in the remembrance of God so as to attain partition from worldly desires. The object of fasting is that a person should abstain from the food which nourishes the body and obtain the other food which satisfies and brings solace to the soul. Thus food intake must be simple, and similar to a normal diet with gathering of member of family for the meal at ifar time.

### **The definition of holy month fasting for Arab nations nowadays**

The holy month Ramadan for the Arab world including Libya, means simply increasing and uplift prices to make the maximum profits, sale goods, and foods, cutlery and utensils plus

non stop cooking and eating all night. And most Libyans people got preoccupied by buying foods to prepare the lavish sundown meals though its expensive in comparing to normal days, and what is more is no work and all governmental works are paralysed and suspended until Ramadan is over, which convey a wrong message about Ramadan, and they are spending all day time in sleeping (setting the clock back) though Islam did not state that and our beloved prophet stated that fasting means to identify with the poorest and to rest your body and your stomach from food during this spiritual month and carry on work and closeness to Allah by good deeds. Our prophet Mohammad said "fast to be get cured from many ailments" and mandate getting more closer to Allah SWT and make good deeds and correct self and seek forgiveness through making Duaa to Allah with an intention to be a good Muslim in heart as Allah knows well out heart.

Ramadan is none of those things, if done right, and instead, is the chance for a spiritual boost, with lessons to be applied long after the month is out. It is instead to renew their focus on prayers to get closer to Allah SWT and increase their recitation of the Holy Quran.

### **Madness of food and excessive eating**

Food plays a hugely significant role during the holy month of Ramadan. Markets get very lucrative during this month from selling foods.

In fact, the few days preceding Ramadan are really hectic, tiring and better to avoid going out as the roads and traffics are totally blocked, jammed and congested by cars. This is sad as it looks as all anyone can think only of is eating the most junk possible as if they won't get to eat again which is silly because Ramadan is one big feast for them. It's a complete 30 days where people eat and eat different sorts of foods as they don't eat on the normal days and as they will die from fasting. It's pretty very disappointing that how many Libyans forget the spiritual aspect of this blessed month and just let this month evolve only around food. Ramadan is about to spend more time on reading Quran and understand it, making Duaa and supplicate to Allah and eat less. They just misuse the actual meaning of fasting.

Most Libyans mind are just taken by how most lavish meals and meat will they buy and have to eat without thinking about how it will affect them later on, especially when they need to stand up for long Taraweeh prayers.

### **Eating right and boost your self**

It's crucial to consume the right food and portion. It is important to refrain from indulging in greasy foods for iftar/suhoor which is unhealthy, since they can tire you out faster. And will affect us badly during the fasting hours.

You should aim to eat slow digesting foods such as barley, wheat, oats and lentils and limit the fatty and sugary products.

Try to schedule time for working out or just simply walking half an hour which will do well to our bodies. It's generally advisable that the right food is anything grown green. So aim to eat lots of greens and fruits to keep healthy.

Fasting has proven scientifically numerous physiological benefits and helps weight loss when you plan and watch what you eat effectively by giving you a chance to re-assess your meals and improve your eating patterns. Also some studies in California had proven that fasting lessen aging process to live longer and combat cancers and chronic ailments such as diabetes, coronary and hypercholesterolemia and this proves what our prophet said (fast and you feel healthy). Also fasting helps repair the damage done by free radicals and prevents cells from dying prematurely, as well as lowering inflammation. Thus it reduces markers of inflammation and oxidative stress, two primary causes of ageing.

However many people complain that they gained weight in Ramadan and sure it will when they are only busy by cooking and eating food and not following the path of our prophet in eating less portions.

Here's the timeless hadith of our Prophet regarding healthy eating habits:

"A human being fills no worse vessel than his stomach. It is sufficient for a human being to eat a few mouthfuls to keep his spine straight. But if he must (fill it), then one third of food, one third for drink and one third for air." [Ibn Majah]

In fact, Portion control was suggested more than 1400 years ago by our beloved Prophet ,

We should refrain from not eating mindlessly and avoid filling our stomach until it is full, which will inevitably lead to weight gain, laziness and lethargy. Also for those who overindulge all day for eating, fasting helps you boost your self-control and conquer your food addiction because it obliges you to eat only when it is permitted. Thus, your body gets adapted to this new style food change after a few days which is healthier and you only need to stick to it afterwards.

Basically due to the long hours of fasting, we have to avoid simple fast sugars and instead consume the 'complex carbohydrates' or slow digesting foods especially at Sahur time, which release energy slowly whereby the food tends to last longer (about 8 hours) and thus making you less hungry during the long fasting day. These complex carbohydrates constitute grains and seeds like barley, wheat, oats, millet, semolina, beans, lentils, wholemeal flour, and unpolished rice (basmati rice).

Also aim for those fibre-rich foods which are also digested slowly and include bran, cereals, whole wheat, grains and seeds, potatoes with the skin on, vegetables such as green beans, and almost all fruit, including apricots, prunes and figs.



In contrast, refined and processed fast carbohydrates or fast-digesting foods (sugar and white flour) last only 3 to 4 hours and perhaps to be better taken at Iftar to rapidly restore the low blood glucose levels.

Dates are known to be an excellent source of sugar, fibre, carbohydrates, potassium and magnesium and have been recommended since the days of the Prophet Mohammad (pbuh) as a good way of breaking the fast (Swam).

Fried foods, very spicy foods and foods containing too much sugar such as sweets can cause just health harm consequently and thus should be limited during Ramadan. They mostly cause indigestion, dyspepsia, heartburn, and weight gain and thus health problems.

Fasting for long hours can often amplify gastric acidity levels in the stomach causing a burning feeling, fullness in the stomach and a bitter mouth. This can be overcome by eating foods rich in fibre such as whole wheat bread, vegetables, humus, beans and fruits, which trigger muscular act, churning and mixing of food, breaking it into small particles, and thus help reduce the buildup of acid in the stomach.

Drinking of sufficient water between Iftar and sleep to avoid dehydration and for detoxification of the digestive system should be encouraged. However, the intake of large amounts of caffeine-containing beverages should be banned especially at Sahur. As they are diuretic and make one pass more urine and inevitably cause the loss of valuable mineral salts that your body would otherwise need during the day. Fruits such as bananas are a good source of potassium, magnesium and carbohydrates. However, bananas can cause constipation and their intake has to be balanced with adequate fibre intake.

It is recommended that everyone engage in some kind of light exercise, such as stretching or walking. Exercise, together with a balanced diet, should help everyone watch their weight during Ramadan. Anyone overweight should increase the amount of exercise and reduce the amount of food intake to help reduce weight.

It is also important to follow good time management procedures for Ibadat (prayer and other religious activities), sleep, studies, work, and physical activities or exercise. A good balance in the amount of time attributed for each activity will lead to a healthier body and mind in Ramadan.

In summary, Islam offers an exemption to the sick like uncontrolled diabetes and heart problems from observing their fast during the holy month of Ramadan. But they must pay the *fidyah*, which is giving a day's meals for each fast missed to a needy person.

One can also give instead the money for meals to a needy person. Women in their menses and post-natal bleeding are not permitted to fast, but they must make up later after Ramadan.

Pregnant women and breast feeding, if they find it difficult to fast they can also postpone their fasting to a later time when they are in a better condition.

### **Plan a healthy fasting and fitness program for Ramadan, make it happen.**

Fast simply is conquering God's enemy and abating appetite. There is no receptacle more odious to God, than a belly stuffed full of food after a long day fast. It is therefore worth reflecting on the true purpose of fasting which is to experience hunger and to check craving in an attempt to reinforce the soul in piousness, and purify the soul, refocus attention on God, and practice self-sacrifice. Thus don't break your fast with a feast or you may put on weight instead of losing it.

The body has its own regulatory mechanisms that reduce the metabolic rate and ensure efficient utilization of the body's fat reserves in times of hunger. Add to this the fact that most people assume a more sedentary lifestyle whilst fasting and the implication is that a balanced diet that is even less in quantity than normal will be sufficient to keep a person healthy and active during the month of Ramadan. So fasting is a natural way to lose weight by burning its own reserve of fat (lipolysis). The mechanism is unclear, however it could be explained by the beneficial effect on the distribution of stored fat in the body, affecting levels of fatty acids and hormones, including leptin, which is involved in regulating body weight and in metabolism.

Thus in Ramadan, we need to rethink and motivate ourselves to change our habits to the best beside worship.

There are numerous physiological and lifestyle-changing benefits can be started during the blessed holy month. Intend that this Ramadan will be your plan to lose weight and not another food festival feast. On the contrary approach the fast with discipline, and an opportunity to lose excessive weight.

### **Prioritize ibada (worship, obedience and closeness to Allah), not cooking**

It's a spiritual connection to Allah, to wipe away our sins, change our life styles and get closer to Allah. Fasting all day won't mean to infuse yourself later on by foods variety to compensate the long fast day. It's just to eat what is enough and only aim for filling only the third of your stomach as our prophet state to ease your stomach from excessive work overload and thus indigestion.

For me, personally whether it's Ramadan or not, food style and intake remains the same as any other day throughout the year. We fast for the sake of Allah rewards. It's about maximizing the self spiritually with Allah SWT and not worship by having excessive foods in. its mandatory to observe the fast and at least only two balanced healthy meals a day - one is the meal at dusk (Iftar) where we break fasting at sun set, and the pre-dawn meal (Suhoor) before sun rise.

**Self-discipline and self-control**

Aim for the self-discipline and self-control and this should not fall apart at the end of the day with Ifitar as many prepare a lot of foods for breaking their long day fast and eat everything without watching their intake.

Start by drinking plenty of water, which helps rehydration and reduces the chances of overindulgence. Avoid the rich, special dishes that traditionally celebrate the fast and especially the deeply fried and too much sweets and candies.

**Fasting is not starvation, but a good spiritual detox and helps you lose weight**

Many misunderstand that fasting is a starvation. Fasting is not a starvation because you will eat after some hours. Fasting is simply not eating or drinking for a period of time according to sun set and dawn, and then breaks it with basic nutrients. And on the contrary we feel more rested internally. That is because fasting gives your digestive system a rest, and this can energize your metabolism to burn through calories more efficiently. It also promotes healthy bowel action and motion. It also shown scientifically that fasting to help the body clean up the toxins and regulate the functioning of other organs of the body including liver and kidneys.

Fasting teaches us patency and self discipline in life. Fasting helps in losing excessive weight and controls it. Scientifically proven that intermittent fasting -within a set number of hours - helps the body to burn fat cells more effectively than just regular dieting, because intermittent fasting allows the body to use fat as its primary source of energy, instead of sugar and candies.

To conclude, fasting is about spiritual nourishment and not physical to bring up solace to soul. Therefore, fasting is not merely physical, but is rather the total commitment of the person's body and soul to the spirit of the fast. Ramadan is a time to practice self-restraint; a time to rinse out the body and soul from impurities and re-focus one's self on the worship of God.

