

Human Energy and Immaterial Communication: The missing link for Inspirational Leadership? A Theoretical Paper

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Abstract

Why does Harvard Business Review consider the article 'Pygmalion in Management' from the 1970s as one of the best in the area of Motivation, and yet there has been negligible research about this topic in the field of leadership? Probably because the Pygmalion Effect can only be studied using complexity sciences. This paper covers the scientific discoveries in the field of human energy in the last century, and connects them to an interdisciplinary analysis of quantum mechanics, bio-fields, neuroplasticity, and epigenetics, in order to give novel explanations of how the Pygmalion Effect happens and how it is essential to understand leadership and vanguard management. Hence, a new leadership soft-skill is constructed: immaterial communication. This new leadership construct is helping reduce the 86% rate (Gallup, 2013) of disengaged workers around the world. A descriptive proposal of operationalizing Immaterial Communication is presented at the end.

Keywords: Management Innovation, Complex Theories, Business Transformation, Business Communication, Interdisciplinary Leadership.

1. INTRODUCTION

Jim Collins said that almost all 'Level 5' great leaders had a "charisma bypass", which means that the traditional idea of personality as a foundation of leadership is wrong. Collins boldly stated that "we should never confuse charisma with leadership... they are very, very different ideas"¹. Terry Mollner (2010:171) stated that when Father Arizmendi—the founder of the biggest, most profitable, and most sustainable cooperative in the world, Mondragon—talked to his employees, people almost fell asleep. These cases challenge the traditional idea of mammoth leaders, with a great look, great communication skills, and a big charisma that *hypnotizes* people only with their presence. That was, and still is, the traditional imagery of a leader (see Mintzberg, 2010; Collins, 2001). The challenge is that Collins and his team found that from Fortune 500 companies list in a 30-year period, only eleven companies achieved that *greatness*. One of the seven patterns that made these eleven companies great was having a humble leader. When Collins and his team wrote the book "From Good to Great", this was shocking for the academic and management *establishment*. Still is. The idea that humility and not *hypnotizing-charisma* was the source of great leadership was not consistent with 30 years of research studies on leadership.

How can a humble, merciful, introverted human being become so powerful that can lead companies like Gillette and Walgreens towards huge successes? Talking about Darwin Smith, the CEO who transformed in the 70s Kimberly-Clark, Collins stated that, compared to Lee Iacocca and Jack Welch, "Darwin Smith seems to have come from Mars. Shy, unpretentious, even awkward". Collins continued and affirmed that "if you were to consider Smith soft or meek, you would be terribly mistaken. His lack of pretense was coupled with a fierce, even stoic, resolve

¹ Hesselbein Leadership Academy University of Pittsburg. Talk given by Jim Collins about 'Level V Leaders'. Visit <https://www.youtube.com/watch?v=q-KyQ90XByY> Surfed April 2016.

towards life” (Collins, 2001:138). Complementing this reality, Owens and Hekman’s research about humble leadership, based on real business cases, established three distinctive behaviors in leaders: Admitting mistakes and limitations, modeling teachability, and spotlighting followers’ strengths and contributions (2012:792). If we carefully analyze Collins, Owens and Hekman, and Mollner research, a very important leadership soft-skill emerges: inspiration. It can be found in relevant leadership literature and research (see Mintzberg, 2010; Collins 2001; Hamel & Breen, 2012; von Kimakowitz, 2011; Koznes & Posner, 2008; Goleman, 2005; Secretan, 2003; Senge, 1995). However, the ‘inspiration’ construct is a difficult one for the social sciences. How can a manager inspire a colleague or a group? Are we missing something? Do we have to include *human energy* when talking about inspirational leadership?

Several challenges arise with these questions. If it is a soft-skill, then it has to be a competency, meaning an “observable and measurable knowledge, skill, ability or personal characteristic”, as the National Research Council of Canada defines it. So it must be measurable. The NRC states that “Inspirational Leadership is about energizing and creating a sense of direction and purpose for employees and excitement and momentum for change. It involves energizing individuals to strive towards a compelling vision of the future” (NRC, 2019). Measuring and having a scale for an ‘energized individual’ is a conundrum. Mankins and Garton (2017) have been working on highlighting the importance of *time*, *talent*, and *energy* in successful businesses, and developed a list of 33 traits that can be traditionally measured. This could explain why Eric Garton (2017), in his Harvard Business Review article, stated that “while anyone can become an inspiring leader (they’re made, not born), in most companies, there are far too few of them”. Management and business argot is filled with words like ‘power’, ‘mindfulness’, ‘energizing meetings’ and so forth, but traditional academia does not know how to grip *immaterial* competencies. That explains why we need an alternative and interdisciplinary approach to better understand how to become an inspiring leader, and to complement the recent literature, which is the main goal of this paper.

But this inability of traditional management academia is not new. In the 1970s, Sterling Livingston wrote ‘Pygmalion in Management’, a classic in management literature. So, why does Harvard Business Review consider the article ‘Pygmalion in Management’ as one of the best in the area of Motivation, and yet there has been negligible continued research about this topic in the field of leadership? As mentioned before, immaterial competencies are hard to analyze with Newtonian approaches. We need to use complex sciences and vanguard scientific discoveries that are ‘hidden’ for the traditional management discipline, as it happened with Livingston’s ideas of inheritance. To close the gap on this subject, this paper will first cover Livingston’s main ideas, the framework of a non-traditional inspirational leadership understanding, and the need for management discipline. Then, the main scientific discoveries in the last 50 years are discussed in order to find the relationship with an immaterial inspirational leadership competency, which creates a new construct that can close this gap: *immaterial communication*. Finally, the results of this paper clears the way for other scholars to consider a more holistic research approach, e.g. Peter Seng research work, and include immaterial competencies in their theory and practice.

2. PYGMALION IN MANAGEMENT AND THE LEADERSHIP CONTEXT

Stearling Livingston stated that the Pygmalion Effect was “what managers expect of subordinates and the way they treat them largely determine their performance and career progress” (Livingston, 2003[1969]:98) what can be explained as the “Power of Expectations” (Ibid., 100). Positive expectations, or the Pygmalion Effect, have direct consequences in the performance of coworkers. The highest the expectation, the highest the performance will be. The Pygmalion Effect, or self-fulfilling prophecy, is *the mental image a leader has about their subordinates and co-creates the reality that emerges by the subordinate on their performance*. Harvard Business Review’s editors wrote that the Pygmalion Effect “has been confirmed so many times, and in such varied settings, that it’s no longer even debated” (HBR, 2003:97). Starling Livingston made another important, but underestimated finding about the Pygmalion Effect. Positive expectations are somehow communicated to the employee, but science has had the challenge to explain how this communication happens. Which senses are used? Is it part of the verbal or non-verbal

communication? Or is it another channel that we use? If yes, which one? Thus, Livingston (2003 [1969]:100) found some appealing evidences, since he stated that it was “virtually impossible for them [leaders] to mask their expectations because the message is usually communicated unintentionally, without conscious action on their part”. It is challenging for traditional science to explain this. Maybe this could explain why this line of research has almost stopped in traditional management scientific journals.

More than five decades ago, in the ‘Best in Motivation’ book by Harvard Business Review, several leadership topics were covered, like empowerment, Management by Objectives (MBOs), and intrinsic motivators. It is interesting to highlight that these three topics have had much more development in the last decades than the Pygmalion effect had. For example, an EBSCO search of ‘Pygmalion effect’ only shows 291 cases in more than 60 years in all EBSCO databases.² Compare this to the 736,477 cases after putting ‘leadership’ in the search, or 99,691 when putting ‘leadership’ in the title of all EBSCO databases³. If we search only the word ‘Pygmalion’, in the ‘Abstract/title’ option in all Academy of Management Journal issues, only 7 cases appeared⁴. As stated, we need a different approach to put into the management discourse *immaterial* soft-skills. Based on interdisciplinary vanguard science, we know today that this ‘unconscious communication’ from leaders was not a ‘hidden’ message in non-verbal communication. It is rather an intentional message using *immaterial competencies*. Why *immaterial competencies* are important in the field of leadership? As mentioned before, the power of positive or negative expectations and the inspiration are highly relevant topics. Thus, every leader must work on developing this soft-skill, and every corporation should develop training sessions, so *immaterial competencies* are part of the skills needed in their workplace. Not doing so, just because it is a new construct, creates the risk of having a low impact within all the development skills workshops structured in a company, as Chris Argyris (2010) and Edgar Schein (2013) firmly stated. If companies want to increase engagement, motivation, innovation and productivity, Argyris (2010:17) argued that it won’t be possible if “people get trapped in the same pattern of behaviour”. And, even worse, Argyris (ibid, 88-117) revisited almost all the ‘state-of-the-art’ leadership theories and practices developed in the last three decades (i.e. transformational leadership, developing leadership competencies, leading effectively with conflict, personality types, appreciative inquiry, competing commitments) and his conclusion is worrisome, since “no advice for dealing with such issues [engagement, non-defensive behaviour, change, better communication] is given”.

Concomitantly, Edgar Schein argued, in line with Argyris and Collins, that we need to give a countercultural switch to the traditional Leadership approach. Schein specifically worked on communication, and stated that “we must become better at asking and do less telling in a culture that overvalues telling” (Schein, 2013:3). Since asking “arouses positive helping behaviour in the other person” and it is based on feelings, humble inquiry, curiosity, and interest—which are all linked with positive expectations and inspiration arousal approach—thus a milieu of psychological safety is created (Ibid, 19). Schein concluded that “what differentiates this form of inquiry is that it influences the other’s *mental process*” (ibid., 43). As a summary, these important elements mentioned so far are part of *immaterial competencies*: *Mental processes*—Schein; *non-defensive communication*—Argyris; and *authenticity & humbleness*—Collins.

The reality is challenging. Alternative approaches to leadership are needed since the management has to be enhanced with state-of-the-art approaches. For example, to name such a few, in the ‘Global Human Capital Trends 2015’, Deloitte’s team showed their latest research

² The unstructured search was conducted putting the word ‘leadership’ in all EBSCO databases search in all text and you get 623,901 cases, with ‘engagement’ you get 188,651, and with ‘communication’ 2,941,127. However, if you enter ‘intuition’ you get 16,886, ‘mindfulness’ 7,074, ‘ESP (extra-sensorial perception)’ 387. Going deeper, with ‘intuitive communication’ you get 134, with ‘self-fulfilling prophecy’ 1,465, with ‘observer-expectancy effect’ 4, and with ‘Pygmalion effect’ 291. With ‘immaterial communication’ we got 3 cases. Search results obtained in Universidad EAN’s databases using EBSCOhost on internet on January 15th, 2016.

³ Search conducted in January 2018 using Universidad Católica de Colombia’s EBSCO databases.

⁴ Search conducted in July 2016.

about how to lead in *the new world of work*⁵, “one that requires a dramatic change in strategies for leadership, talent, and human resources” (May et.al, 2015:2). The overall results of this research pose several challenges. The top priorities for corporations are culture, engagement, and leadership. However, the bigger gaps between *global importance* and *readiness* of the organization are in these two critical management elements. They are the most important, 78%⁶, but the gap with readiness is the biggest too, 47 points for culture and engagement, and 42 points for leadership (Ibid, 4). This clearly means that corporations know what they need to focus in terms of talent and human resources, but they *don't know how to do it*. Billions of dollars are invested in corporations around the globe to ‘develop leadership skills’ (Argyris, 2010) and the end result does not meet the expectations (Hamel & Breen, 2012).

In addition, people change more rapidly than the cultural organization. It is not only about *millennials*, is about what engages people. Deloitte found that “today’s workers have a new focus on purpose, mission, and work-life integration” (May et.al., 2015:37). Career ambition is not the driver anymore. Leaders need to truly inspire their colleagues. Engagement is a complex construct, closely linked to inspiration, motivation, dialogue, and authenticity (see Kouzes & Posner, 2008; Csikszentmihalyi, 2008; Maslow, 1968; Largacha-Martínez, 2014). All of them are part of interdisciplinary leadership. Engage means to *be involved* in order to “establish a meaningful contact or connection with ...”. A new mindset, attitude, behaviour, and skills are needed. The data show that companies are not ready for this challenge since 93% of Deloitte’s companies don’t have a structured engagement program and/or policies. This means that these companies have poor programs in terms of “measuring, driving, and improving engagement and retention” (May et.al., 2015:36).

The traditional management mantra of ‘command and control’ has given humanity great achievements, but we are paying a big price so “perhaps the time to renegotiate the deal has been reached”, as Gary Hamel & Bill Breene (2012:11) reflected. This explains why Hamel wrote, “management is obsolete” (Ibid.).

3. IMMATERIAL LEADERSHIP COMPETENCIES: AN INTERDISCIPLINARY [RE]VIEW

Although immaterial communication is a new construct, it was built upon former scientific research, presented within their disciplines in the next list: flow & positive psychology (Csikszentmihalyi, 2008); self-actualization (Maslow, 1968); intuitive intelligence (McCraty & Zayas, 2014; Bradley et.al., 2008); emotional intelligence (Goleman, 2005), intuition (Osho, 2007); biofeedback and biofields (Vernon, 2005; McCraty, 2003; McTaggart, 2001); emergence and human fields (Senge et.al., 2004), humanistic management (von Kimakowitz, et.al.), quantum/non-linear management (Zohar, 1990; Wheatley, 1992), asking in dialogue vis-à-vis telling (Schein, 2013); social leadership (Goleman & Boyatzis, 2008); reinventing management (Hamel & Breen, 2012); relational intelligence and communication (García & Sanhueza, 2013); positive vulnerability (Brown, 2015); neuroplasticity (Doidge, 2007; Arrowsmith-Young, 2012); uncertainty and strategy (D’Souza & Renner, 2014); transcending managerial mindsets (Argyris, 2010); Pygmalion effect and/or the self-fulfilling prophecy (Livingston, 2003; McNatt, 2000), which can also be found as the interpersonal expectancy effect (Rosenthal, 1997). This list helped to create Figure 1, where six elements are important to create better the bridge between management and interdisciplinary approaches.

⁵ Here is a brief overview of the sample used in that research: ‘The research described in this report involved surveys and interviews with more than 3,300 business and HR leaders from 106 countries done in 2015. All the data from this research can be viewed by geography, company size, and industry using an interactive tool, the Human Capital Trends Dashboard’. This tool is available at www.deloitte.com/hcdashboard.

⁶ Also “An overwhelming 87 percent of respondents believe the issue is “important,” with 50 percent citing the problem as “very important”—double the proportion in last year’s survey.” (May et.al., 2015:35).

⁷ Apple Dictionary version 2.2.1. (2005-2011).

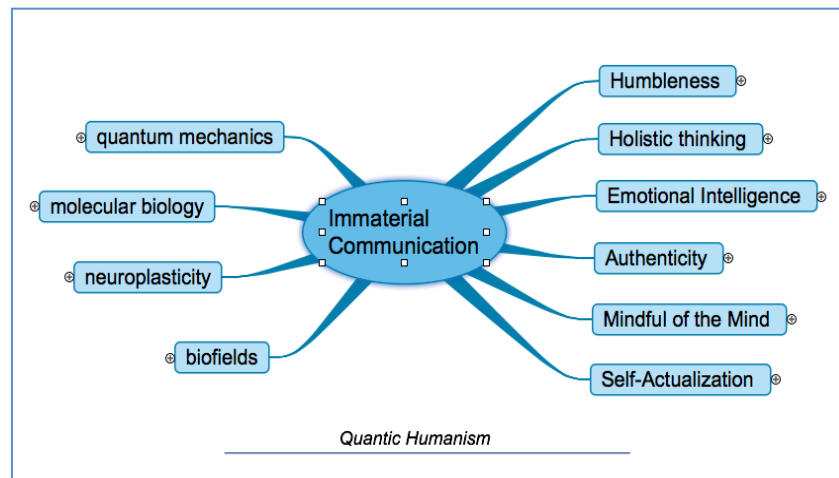


FIGURE 1: Immaterial Communication. Developed by the Author.

In Figure 1, the interdisciplinary scientific foundations of the *immaterial communication* are included and, in the right column, the management elements that emerge or are interiorized by an inspiring leader. These six management elements, although not presented in this article, are highlighted. The reader can connect the bridge between the scientific foundations and the leaders' soft-skills. If the reader wants to dwell more onto these topics, here is a brief list of the salient authors in the six salient topics: *humbleness*: the work of Jim Collins and the AMJ's article by Owens and Hekman; for *holistic thinking* the work is done by Peter Senge and its associates at MIT and SoL, plus Chris Argyris; for *emotional intelligence* Daniel Goleman will be the leading one, going also to his latest 'social leadership'; for *authenticity*, the work done by Brene Brown using her social work approach, plus the interesting work done by positive psychologists like Mihaly Csikszentmihalyi, and the work done by Murphy and Largacha-Martínez in quantic humanism; about the mind, more than works on the mind for immaterial communication is more important being *mindful about the mind*, so the work done by Howard Gardner and his MIT's theory is relevant, plus the work is done by Rollin McCraty at the HeartMath Institute; and last for not least, Abraham Maslow's superb work on *self-actualization* is also scrutinized.

The scientific foundations of the immaterial competencies are presented in the following paragraphs highlighting their interconnectedness and the links to the leadership arena. Since the new construct *immaterial communication* is holistic, none of the four is more important than the other, and they are not defining all the elements and constituents of immaterial communication, because that is impossible in a holistic approach. The four pillars of immaterial communication are: quantum mechanics, molecular biology, neuroplasticity, and biofields.

Based on scientific discoveries and in an interdisciplinary analysis (see Radin, 2006; Lipton, 2008; Sheldrake, 2009; Livingston, 2003), immaterial communication for me *is a third way of communication that humans have based on bio-resonance, where people are able to perceive and decode the immaterial information embedded in humans' energy*. It fully enhances the verbal and non-verbal communication channels. Immaterial Communication can be paralleled as the communication that humans can recognize, except that they are not able to explain it using the five senses. For example, perceiving that someone is staring when you have your back to him (see Sheldrake, 2013). In immaterial communication, people start saying words like mind, energy, human chemistry, intuition, and faith. Bio-resonance and/or scalar waves are based on the science of Nikola Tesla and Konstantin Meyl (2003). Human scalar waves are based on the discoveries by Nikola Tesla, since he "proposed two types of energy existed in the cosmos: scalar and electromagnetic energy" (BCL, 2019) (see Meyl, 2001). Furthermore, "bio-resonance is based on receiving the information from a living organism that gives out energy. The term

energy is used to describe the various subtle frequencies or vibrations that each one of us emits constantly.” (BCL, 2019; see Saatchi, 2018; Hennecke, 2012).

The next parts are the scientific interdisciplinary approaches that helped create this new construct *immaterial communication* and its link with inspirational leadership. These four scientific disciplines—quantum mechanics, molecular biology, neuroplasticity, and biofields—have a common pattern: they are relational in nature.

3.1. Quantum Mechanics

Everything is entangled, so you cannot talk about independent, objective elements in the universe. If you want to know something about A, you need to know about B, and C. If you try to know B without knowing the attributes of A, A disappears, *does not exist* and does not have any attribute. Daniel Bell demonstrated that interconnectedness is a reality. Thus, there are is not *independent* stuff in the universe (Cushing & McMullin, 1989; McTaggart, 2001). Objectivity, measurable causation, and neutrality are no longer possible in the quantum world. These have to be redefined and deconstructed. Non-locality, irreducibility, and indeterminism are the new *mantras* for society and should be applied to leadership and management. Hence, non-locality or non-separability (Bell), the indeterminacy of position vis-à-vis momentum (Heisenberg), and complementarity of opposites (Schrödinger) are highly salient. In a nutshell, Morales (2002, págs. 4-8) presents what he called the ‘bombs’ to modernity:

“Principle of complementarity—“a corpuscle can behave as a wave or a particle”; principle of uncertainty—“breaking from the sort of certainties proposed by Isaac Newton”; anthropic principle—“the observer modifies the experiment with his/her observations”; Nonseparability—“pristine and autonomous laws, in short, do not exist”; Acausality—“atoms appear and disappear through a process that is spontaneous and not casual”; complexity—entropy leads to higher orderly complexity; ubiquity—“particles behave in such a way that they can be found in many places at once”; Morphogenetic fields—represent “modalities of structures, rules, behaviors ideas and tendencies, each one informing particular aspects of reality”; the existence of “A” and “Not-A” at the same time, or fuzzy math; beauty as the corroboration of the relevance of a theory, or Brian Greene’s “elegant universe”; the universe as a hologram, “that is, each part contains the whole”; manifest and implicate order, from Bohm’s theories; no distinction between matter and energy, mind and body.” (Ibid.)

In a way, almost all of these concepts are present in the immaterial communication and crisscross with the other three scientific foundations—biofields, neuroplasticity, and epigenetics. As stated, it is not possible to know the all the attributes of a thing, because their constituent elements are not independent. Thus, all of the essential elements balance one another and cannot be isolated. Non-Locality is very relevant for immaterial leadership competencies. The locality has been present in Newtonian versions of reality in the last centuries, meaning that only elements that ‘act inside’ the site have to be taken into consideration. However, with this quantum discovery, the ‘butterfly’ effect is understood to be immediate and widespread. The result is that once A & B interacted, they will continue to be interconnected forever (Nicolescu, 2002, pág. 17), no matter how distance they are from each other—challenging Einstein’s speed of light theory. J.S. Bell’s theorem was demonstrated in 1982 (Herbert, 1987) which gives scientific foundations for interdisciplinary approaches or holistic ones. For example, the self-fulfilling prophecy or Pygmalion effect.

Founded in non-locality David Bohm developed the theory of the implicate/explicate order (see (Bohm, 2002) (Wilber, 1982)). In the implicate dimension, attributes cannot be observed but must be intuited, similar to Jung’s “collective unconscious” (Jung, 1976) (O’Murchu, 2003, pág. 57). This kind of *intuition* is what Livingston found in management last century, and it is the basis for immaterial leadership competencies. Holism “is not a landscape of facts or objects, but one of the events, of process, movement, and energy. In this creative flow, past, present, and future are indistinguishable” (O’Murchu, 2003). Ken Wilber (1982, pág. 3) presents the “holographic reality”

where “the brain is a hologram perceiving and participating in a holographic universe”, and the theory “establish the “supernatural” as part of nature ... draw on theoretical mathematics” (Ibid, 5). This holographic-holistic rendition of attributes is scientifically proven by the Field Theory—Sheldrake’s morphic resonance—where fields are understood as “nonmaterial regions of influence” (O’Murchu, 2003, pág. 67).

As Lynne McTaggart reminded us of all the quantum discoveries, “quantum mechanics had demonstrated that there is no such thing as a vacuum, or nothingness” (2001:19) which united with the *nonmaterial regions of influence*, give us a strong foundation for the existence of immaterial communication as one key soft-skill in inspirational leadership. In the end, McTaggart (2001) concluded that everything is energy, and everything is connected by fields, quantum fields. A leader’s thought, as Levingston found, is energy that can influence positively or negatively worker’s behavior. In the coming sections, more occurrences of quantum mechanics are present, emerging in synergy and interaction with the other three scientific disciplines, making immaterial competencies a necessary interdisciplinary reality.

3.2. Molecular Biology

Molecular biology is also challenging several deep-seated beliefs, like the one that states that your DNA is the one that gives an imprint on your siblings. Wrong. It is the ‘*magical membrane*’⁸, as Bruce Lipton calls it. Are cells conscious? And if they are, does consciousness help explain the immaterial communication that humans have between humans and the environment? The answer is yes. That discipline is called epigenetics⁹. As Bruce Lipton (2008, xiii, xiv) said in the prologue of his book *The Biology of Belief*, “it is a single cell’s “awareness” of the environment that primarily sets into motion the mechanism of life” so “the character of our lives is determined not by our genes but by our responses to the environmental signals that propel life”.

As stated, if you want to develop the Immaterial Communication managerial skill, one of the pillars is *authenticity*, which emerges as an outcome of a positive vulnerability approach towards life, i.e. optimism, resilience, perseverance, contemplation. The challenge is that positive vulnerability fuels authenticity which fuels empowerment but 99% of the world population “is still operating from antiquated and disempowering beliefs about being victims of their genes” (Lipton, 2008:xvi). In the end, your “cells respond to your thoughts” (ibid), and that is a very vanguard argument. So your thoughts, your expectations, affect the cells of your workers, as with the Pygmalion effect, and the mirror neurons as the biological basis of empathy (Goleman & Boyatzis, 2008).

A consequent challenge is that Immaterial Communication will only occur if *self-actualization* is present. Self-actualization emerges when the individual has a deep sense of worthiness. A deep connection to the collective unconscious must be alive. This ‘deep sense’ does not mean that the human being has to be an expert in self-knowledge. What it means is that the person is *open* to the possibility of the existence of the connection between herself and the holistic reality around her. And by opening her-self, then self-actualization can emerge, then immaterial communication starts to ‘exist’, to be present. Lipton (2008:xxviii) puts this, from a molecular biology perspective stating that “positive thoughts have a profound effect on behavior and genes but *only* when they are in harmony with subconscious programming”. Hence, *opening* yourself demands a positive vulnerability approach, and in that *space*, a connection to your deeper sense of being alive emerge, or the subconscious programming.

The challenge appears when Lipton (2008:7) scientifically demonstrates that cells are “imbued with intent and purpose” and capable of learning, create memories and “pass on to their

⁸ Lipton (2008:45) refers to the magical membrane as “the mechanisms by which your body translates environmental signals into behavior”, and into beliefs.

⁹ “Epigenetics is the science of how environmental signals select, modify, and regulate gene activity. This new awareness reveals that the activity of our genes is constantly being modified in response to the life experiences. This again emphasizes that our perceptions of life shape our biology”. And Lipton (2008:xv, xxvii) continues stating that the “environment (nature) influences the behavior of cells without changing the genetic code”.

offspring". That is why Lipton's most famous book is called '*The Biology of Belief*'. Aren't beliefs the bedrock of paradigms, of behavior and of corporate culture? So, shouldn't managers pay attention to these issues if they want to be excellent, Level-5 executives, according to Collins' classification? No wonder that the bedrock of corporate executive excellence lies in *humbleness*. Being humble is a need for opening yourself. Humility is a belief/attitude/behavior *sine qua non* for immaterial communication success. Humble leadership is a strong trait and not a signal of weakness. Switch your mind.

Systemic thinking is now being part of molecular biology. This should be applicable to the field of management too (Senge, 2005; Senge et.al. 1994; Mackey & Sisodia, 2014). In fact, cooperation and observable relationships in animals are part of a new discipline called 'Systems Biology'. What is interesting is that formerly ostracized biologist, Jean-Baptiste de Lamarck, is now being right in his theory. And what is more astonishing is that Charles Darwin was wrong, just as with Einstein's story before. Challenging the traditional *modernituous*¹⁰ paradigm is a must if immaterial communication can emerge as a possibility. Hence, "we need to move beyond Darwinian Theory, which stresses the importance of *individuals*, to one that stresses the importance of *community*... Evolution becomes a matter of the survival of the fittest *groups* rather than the survival of the fittest individuals." (Lipton, 2008:15).

This applies also to companies. Among the authors who have a team-approach for decision making and strategy, like Morning Star, Vagas, or Semco¹¹, just to name a few, the financial, sustainable, and engagement results are outstanding (von Kimakowitz, 2010; Hamel & Breen, 2012; Mackey & Sisodia, 2014). Without doing anthropomorphism, the idea here is that immaterial communication is based on the relational understanding of the human being, and human flourishing only occurs and emerge when accepting that it is *with the Other* that I become deeply human (Largacha-Martínez, 2011). Therefore, before covering neuroplasticity and its link with immaterial communication, it is worth citing a long paragraph by Lipton where he unites almost everything written so far and confirms the relationship with the new construct presented in this paper, immaterial communication.

*... the research will ... confirm what scientists and nonscientists already "know"
... : all organisms, including humans, communicate and read their environment
by evaluating energy fields. Because humans are so dependent on spoken and
written language, we have neglected our energy-sensing communication system
(Lipton, 2008:90).*

Isn't the *energy-sensing communication system* a solid foundation for immaterial communication? In this paper the two terms are used as synonyms.

3.3. Neuroplasticity

To complement the *big picture* of Immaterial Communication, it is relevant to cover the vanguard scientific discoveries of *neuroplasticity* or the *plastic brain*. First, in parallel with cellular biology, Immaterial Communication challenges the status quo, the machine-view of reality. Second, it complements the quantum view of reality as well as the interdependence of our biologic being with the environment. Third, since Immaterial Communication is so arcane to several minds, it is important to have leverage in order to change managers' deep-seated beliefs. This is the main role of neuroplasticity. And fourth, if we believe in Immaterial Communication, in its positive impact in inspirational and authentic leadership, and in the malleable structure of the brain, a set of '*brain exercises*' must be developed to enhance executive training and organizational behavior. Neuroplasticity is a concept that states "that the brain is inherently plastic" (Arrowsmith-Young, 2012:9). As Dr. Bach-y-Rita argued, "we see with our brains, not with our eyes" (Doidge, 2007:15)

¹⁰ The use of the word 'modernituous' is preferred that 'modern' since the message of the latter is about technological advance, not related to the mindset of the epoch, Modernity (see Largacha-Martínez, 2011).

¹¹ Although there are books about these companies, you can find business cases and other material in the webpage of the MIX, the LBS, McKinsey & HBR initiative. See www.managementexchange.com

or, to put it simply, is “an attempt to use one sense to replace another” (Ibid, 12). Neuroplasticity goes against the traditional beliefs of ‘localizationism’, which is the idea that if you pinpoint one area of the brain, something will happen in your body. Or the other way around, everything your body does has an instantaneous representation in an area of your brain, which has been called mental maps. These ideas are part of *mechanistic biology*.

Brain plasticity has been researched for more than two centuries, but the modernist paradigm ostracizes it. There are scientific studies from 1820s when Marie-Jean-Pierre Flourens showed that the brain “could reorganize itself”; in 1868 Jules Cotard experimented with children with massive brain disease who could speak even if the *Broca area* was damaged; in 1876 Otto Soltmann worked with infant dogs and rabbits that were able to move even after motor cortex removal; however, all “these findings were submerged in the wave of localizationist enthusiasm” (Doidge; 2007:17-18). Even in 1783, there are records of anatomist Michele Malacarne doing research in birds about the “impact of exercise in the brain” (Arrowsmith-Young, 2012:13). It was in the 1970s that Mark Rosenzweig, from the University of California at Berkeley, scientifically demonstrated neuroplasticity by showing that changes in the structure of the brain were possible (Doidge, 2007).

The scenario is a positive one. There is hope. If we want Immaterial Communication to be part of the soft-transcendence skills of top management around the world, the idea that only some ‘*gifted*’ people are able to achieve it, or people who were born with that competency, is outdated or needs to be deconstructed. It is clear that leadership is a mix of nature and nurture, but nurture plays a big role here (Collins, 2001; Hamel & Breen, 2012). Since organizational change deals with a culture nurtured by beliefs and habits, it is encouraging to know that the ‘bad habits’ in almost all corporations can be deeply-changed, leading to the Immaterial Communication and the set of desired managerial skills.

However, the scenario becomes tricky and ironic. Harvard Professors Kegan and Lahey (2009:2) discovered that change is not a matter of will. The challenge lies in the “inability to close the gap between what we genuinely, even passionately, *want* and what we are actually *able* to do”. Going deeper, why don’t people normally *walk the talk*? The answer also lies in what Chris Argyris and his team found after documenting more than 10,000 cases of executives around the world, concluding that “theories-in-use are not the same as espoused theories”. They continue stating that “It is not that people are incompetent in achieving the results they desire—in fact, they are quite competent: *but what they are competent at is avoiding threatening and embarrassing situations*” (2010:60-61). People espouse theories of promoting trust and dialogue within organizations (the talk) but, actually, their actions (the walk) go against that, because people act “in ways that undermine those values in order to defend the self” (Ibid. 65).

Isn’t Argyris’ argument extreme? How can changing a behavior threatening? A new identity must emerge to deeply change my behavior and my beliefs. This change challenges years of traditional ‘command & control’ socialization and my education. In a nutshell, this change makes us feel vulnerable, and *modernist* socialization is based on happiness, perfection, and achieving the ‘ideal’. Instead of valuing mistakes as one step in the path of perfection, we created companies that control everything in order to avoid imperfection, but the contrary happens. If Immaterial Communication is needed in an organization, dialogue must be part of the culture and *positive vulnerability*¹² part of the managers’ mindset. After years of research, Brenè Brown (2015) found the quantum essence of vulnerability. On one side, there is shame, fear and vulnerability. On the other side, there is wholeheartedness, authenticity, and courage. Positive vulnerability parallels Csikszentmihalyi’s approach to *Flow* and Maslow’s idea of *self-actualization*.

Management needs to tackle this. We need to change the public optimism in people development when what really happens “is a deep-seated private pessimism about how much people really

¹² Brenè Brown does not use the words ‘positive vulnerability’, but I used this source to highlight the differences.

can change”. Neuroplasticity definitely can help, since today “hard and soft scientists agree that the story of mental development does not need to end in adolescence” and that today “neural plasticity and the phenomenal capacities of the brain to keep adapting throughout life” is a fact (Kegan & Lahey, 2009:3,5,13).

This is a paradox. People want to change, but does not want change. This parallels the *plastic paradox* since “the property of plasticity can give rise to both flexible and rigid behavior”. Life-activated brain circuits create solid mental paths that are difficult to change; hence, a “significant amount of energy is required to reshape old thought patterns and institute new practices” (Arrowsmith-Young, 2012:10). One of the first steps is to change our beliefs. As Brazilian Semco’s CEO Ricardo Semler argued, if you want innovation in management you need to have *faith* in it, tacitly talking about cellular biology. Nobody said it was easy, but you can create new mental maps and do what you need. Second, we can create *new brain exercises in your daily leadership activities*. As neuroscientist Michael Merzenich puts it, mental maps are dynamic, but an orderly topographic brain map emerges because “many of our everyday activities involve repeating sequences in a fixed order (Doidge, 2007:56,65). Is there any parallel among traditional corporate structures? No wonder Jim Collins argued that 95% of corporations still practice *Taylor, Fayol, Ford and Weberish* practices. Third, we need to be mindful of the change we want, since Merzenich “discovered that paying close attention is essential to long-term plastic change” (Ibid. 68). This challenges multi-tasking and helps explaining the growth of mindfulness as a new managerial practice and skill. We need to *reinvent management*, as Gary Hamel always affirmed. Merzenich makes the key question “What if it were possible to reopen critical-period plasticity?” (Ibid.,83). Since Merzenich scientifically demonstrated that plasticity extends into adulthood, this is a task for management, and for the emergence of immaterial communication. The work of Merzenich and Kilgard on nucleus basalis resulted in a *massive* expansion of brain maps. Without a direct approach to neuroplasticity, the work conducted by MIT’s research teams lead by Peter Senge (SoL), and by Otto Scharmer (U-Lab) proved the existence of human flourishing and the fact that adult behavior change towards more humane organizations. *Isn’t human flourishing a proxy for neuroplasticity—or the other way around?* In this paper, it definitely is.

The personal story of Barbara Arrowsmith must be highlighted here since she was able to create from scratch some exercises to change her brain, as her book is titled. And she succeeded. Hence, we need to create some exercises to re-brain and change the executives’ mindset. The Quantic Humanism Initiative-QHI¹³ has been working on this matter. In 2016, at QHI, Surf-Management—a vanguard consultancy company—began a project using heart variability, neuroplasticity, quantic humanism, and the insights of cellular biology. This ongoing research is a real application of immaterial communication, and will be presented in the Future Research final part. Also, this parallels neuroscientist Lara Boyd’s work at the Brain Behavioral Center, at the University of British Columbia¹⁴. Dr. Boyd, who directs the center, is scientifically researching brain plasticity in students with learning challenges at Eaton-Arrowsmith school in Vancouver¹⁵.

Some relevant questions are: What is consciousness? How can we correlate brain, mind, and cells from a quantum perspective? Is it worth to bring consciousness to the research? Yes, it is definitely worth it. Being *mindful of the mind* and/or being aware of the mind, in this paper is considered a proxy for consciousness. Although in this paper a short description of consciousness is included, the main focus of consciousness is about its energy nature. By approaching consciousness from the energy constituency, the correlation with brain, mind, molecular biology, neuroplasticity, and quantum mechanics emerges *naturally* as a holistic synergy.

Danah Zohar (1990: 75) argued in her book The Quantum Self—maybe the first sociological work using quantum mechanics—that “if holism is to have real meaning, any teeth, it must be

¹³ www.quantichumanism.org

¹⁴ Visit <https://support.ubc.ca/projects/learningdisabilities/>

¹⁵ See <http://www.eatonarrowsmith.com/brain-research/>

grounded in the actual physics of consciousness, in a physics that can underpin the unity of consciousness and relate it both to brain structure and to the common features of our everyday awareness. I think that to achieve that, we must turn to quantum mechanics". Some writers, even Karl Popper¹⁶, argued that consciousness is a quantum process (see Zohar, 1990; Eccles, 1994; Herbert, 1987: 248ff; Zukav, 1979: 222; Lupasco, 1983: 123ff).

In this regard, Zohar (1990: 23) seems to be on the right track when she states that she "shall be considering very seriously the possibility that consciousness, like matter, emerges from the world of quantum events". In this *full partnership with nature* (Ibid: 43), Zohar recalls the research that has been done and supports scientifically that reality is spaceless and timeless, at least for energy and consciousness (Ibid.: 36). This hybridization of quantum mechanics and human consciousness is called in quantum physics "contextualism", and the importance of this change cannot be overestimated (Ibid.: 47). This is what has been referred to before as the observer-created-reality; or as Zohar (Ibid.: 44) said that "reality happens depends on how we look at it". This image transcends claims that reality is socially constructed, yet does not describe a type of meta-reality. Instead, such a reality is ambivalent, since quantum events *coexist* with consciousness, whatever the source of that consciousness¹⁷. Therefore, persons are co-creators of the universe. Karl Popper makes a similar point by stating that "dead matter seems to have more potentialities than merely to produce dead matter" (as cited in Zohar, 1990: 58).

In quantum experiments with electrons, similar to the often-cited dual slit, the electron is "nonlocally responsive ... to the information latent in the whole situation", which can be understood as another type of awareness, as Bohm also argued (Ibid.: 60). The hypothesis here is that humans have a *sense* to 'communicate' or 'perceive' this latent information, and the closest type of such communication is intuition, empathy or immaterial communication. Having a holistic perception means doing what electrons do, which would represent another style of cognition or consciousness. With respect to quantum mechanics, Bell's theorem, and Rupert Sheldrake's field theory—*Seven experiments that can change the world*—there is a large repertoire of information that supports this link between consciousness and reality.

3.4. Biofields & Bio-Coherence

Field theory is very important and relevant if we want to 'connect the dots'. For several physicists, quantum entanglement is the most outstanding experiment of the 20th century. Entanglement must be part of the picture if we aim to explain Immaterial Communication and everything stated. Dean Radin (2006:16) argued that "bioentanglement—quantum connections within and among living systems—will be useful in explaining the holistic properties of life itself". This is tied to human consciousness since in the vanguard scientists arena they "suggest that the remarkable degree of coherence displayed in living systems might depend in some fundamental way on quantum effects like entanglement" (Ibid., 2). Radin continued by arguing that "conscious awareness is caused or related in some important way to entangled particles in the brain". Radin ends this idea by stating that some scientists propose that an entire universe is a single object, which is the end result of deep research conducted by Lynne McTaggart, where she showed that the Zero-Field-Force has been scientifically demonstrated, which means that everything is connected and everything is energy.

It is worth to note that these ideas parallel Peter Senge and Otto Scharmer's findings in terms of innovation in management. Specifically, in their book "Presence", with the support from Joseph Jaworski and Betty Sue Flowers, they argued that "everything we have to say in Presence starts with understanding the nature of wholes, and how parts and wholes are interrelated" (Senge, et.al., 1994:5). This leads to being fully conscious, which explains why mindfulness must be part of the emerging manager for the 21st Century. They concluded that "we came to see the

¹⁶ Karl Popper makes a contribution to John Eccles' book "How the self controls its brain" (c1994), where Eccles and Popper use quantum mechanics to explain that the self—the mind—actually starts the act, and *then* the brain follows that "order".

¹⁷ "Take seriously suggestions by philosophers and physicists like Alfred North Whitehead and David Bohm that even elementary subatomic particles might possess rudimentary conscious properties" (Ibid.: 52).

importance of letting go old identities ... [and] Ultimately, we came to see all these aspects of presence as leading to a state of “letting come”, of consciously participating in a larger field for change”. This “letting come” can be also understood as *letting go*, which is the basis for humanistic management (Largacha-Martínez et.al, 2014). At the end, “when this happens, the field shift and the forces shaping a situation can move from re-creating the past to manifesting or realizing an emerging future” (Senge et.al., 1994:14).

Biofields are also part of Otto Scharmer ideas about a Theory-U, where an *open mind, open heart and open will* emerge as part of a dialogical co-constructed reality. In this socially-field constructed reality “a place of deep reflection and stillness” exists, directing all of our energy to “practices of co-sensing, co-inspiring, and co-creating” (Scharmer & Kaufer, 2014:199,201). The idea or action of co-sensing can also be understood as co-perceiving. In this scenario, immaterial communication is in synergy with the co-perceiving skill or sense that humans have. But the words sensing and perceiving are presented here as a relational reality. Not they can be real, in principle, only as interactions, they can't exist in isolation. Humans can't, in principle, sense or perceive something alone, independent of anything else outside. Even thoughts are part of a relational reality with the context. This biofield reality is also presented by Laudisa and Rovelli as relational quantum mechanics. What is stressed in the study conducted by Laudisa and Rovelli (2002) is the absence of any absolute states, values, or events in the identification of a phenomenon. Physical quantities and states, on the other hand, are described to be tied to an interaction with an observer or between two or more systems.

The key idea of Relational Quantum Mechanics (RQM), in fact, is that the notion of “being” disappears; an entity, in other words, does not exist *sui generis* in an undisturbed state. Although each phenomenon exists, the specific measurement (identity or quantity) of each one is affected by the other (Laudisa and Rovelli, 2002: 2). Any phenomenon that exists is *actualized* as a result of the interaction between two or more systems that cannot be disentangled, except for merely analytical/abstraction purposes. Hence, all attributes are accidental, in that they depend on interaction rather than essential qualities. Implicit in RQM is the awareness that total or complete self-measurement is impossible (Laudisa and Rovelli, 2002: 5). Hence, it is a paramount to talk about ‘co’-sensing, and ‘co’-perceiving. Immaterial Communication emerges as a co-emergence. Otto Scharmer calls it ‘presencing’, which led to the creation of U-Lab¹⁸.

All the aforementioned concepts have been studied for more than three decades by the HeartMath Institute¹⁹ to prove that biofields are real and vital in order to understand human interactions. Albeit they have focused more on the biofields of the heart and its interaction with the brain and the whole body, Dr. Rollin McCraty worked on the *bioelectromagnetic communication* among people and founded the ‘energetic heart’. McCraty argued that “most people tend to think of communication solely in terms of overt signals expressed through facial movements, voice qualities, gestures and body movements. However, evidence now supports the perspective that a subtle yet influential electromagnetic or “energetic” communication system operates just below our conscious level of awareness” (2012:7). In this energetic communication, McCraty showed the specialized literature in several areas, i.e. physiological linkage and empathy, cardioelectromagnetic communication, the electricity of touch, and the heart-brain synchronization during nonphysical contact. He also revealed research that parallels Lipton's biology of belief, since McCraty showed that there is an “influence of heart's bioelectromagnetic field on cells” (Ibid:14).

When McCraty talks about biofields and empathy, there is a close connection with the research conducted by Daniel Goleman about what he calls ‘social leadership’, as a vital foundation of social skills. Goleman and Boyatzis (2008) coined the terms ‘biology of empathy’ and ‘biology of leadership’. They found that mirror neurons “operate as neural Wi-Fi, allowing us to navigate our social world”. This Wi-Fi parallels the biofield concept included in this paper. The authors argued

¹⁸ Visit <https://www.presencing.com>

¹⁹ Visit <https://www.heartmath.org>

that “when we consciously or unconsciously detect someone else’s emotions through their actions, our mirror neurons reproduce those emotions” which, at the end, this reproduction of emotions is part of our immaterial communication. As a holistic reality, in regard to perception and action, Goleman and Boyatzis concluded that “collectively, these neurons create an instant sense of shared experience”. They called this social intelligence, where “a set of interpersonal competencies built on specific neural circuits ... inspire others to be effective” (2008:76).

The aforementioned concepts can be complemented with Rupert Sheldrake’s research (2009; 2013). The author conducted scientific research to demonstrate the existence of the morphogenetic fields, which can be defined as the “coming into being of characteristic and specific form in living organisms” (Sheldrake, 1995:19: cited by Needham). This means that “new structures appear which cannot be explained in terms of the unfolding or growth of structures which are already present” (Ibid.19). Hence, as stated, there is immaterial information in the field of the global earth that humans can perceive. The morphogenetic fields “help account ... the coming-into-being” (Ibid. 12) of life, energy, and inspiration.

*

Before presenting the Conclusion of this article, it is relevant to express that the four elements presented here—quantum mechanics, neuroplasticity, epigenetics, and biofields—are not supposed to be an anthology of all the scientific discoveries already proven to demonstrate the existence of the immaterial communication, and that humans have a sense to perceive information embedded in energy and vibrations. This is, to the best of my knowledge, one of the first times that an interdisciplinary approach is used to theoretically prove the existence of human radionics or human bio-coherence applied to leadership and management. Thanks to this, I was able to create the new soft-skill construct called *immaterial communication*. The right question at this juncture could be around this: how can this be measured and applied to organizations and human life in general? The final paragraphs achieve to explain this.

4. CONCLUSION AND FUTURE RESEARCH: OPERATIONALIZING IMMATERIAL COMMUNICATION

More managerial approaches, think tanks, and scholars state that we should transcend the traditional management frameworks. For instance, and just to name a few, Conscious Capitalism²⁰ discusses purposeful leadership; the Center for Creative Leadership²¹ is developing a novel leadership model that includes four elements: inner content, circuitry, conscious engagement, and behaviors; Otto Scharmer argues that the Theory-U²² must be implemented in all dialogical practices in organizations; HBR, LBS, and McKinsey created the MIX²³, where hacks and novel management ideas are included in a web 2.0 fashion; among others like Holocracy, Self-management Institute, Humanistic Management Network, B-Corporation, and Worldblue. The paradigm shift *is* happening.

It is highly relevant for today’s society with humongous challenges to put *all the soft- skills and competencies* in the models that corporations are developing. Why, because it is not unwise to state that globally we are experiencing a disengagement *epidemic*²⁴, and interdisciplinary leadership void. In the Kenexa 2012-2013 Engagement Report, not a single country from North America or Europe were ranked in the ‘High-percentile, > 70%’. Except from Denmark, all countries fall in the ‘moderate’ or ‘low’ engagement percentile. In addition, the studies conducted by Tower-Watson (2010) and Gallup (2013) show that 70% to 86% of the total workers are

²⁰ <http://www.consciouscapitalism.org>

²¹ <http://www.ccl.org/Leadership/index.aspx>

²² <https://www.presencing.com>

²³ <http://www.managementexchange.com>

²⁴ <http://engageforsuccess.org/report-the-many-contexts-of-employee-engagement> See “The Many Contexts of Employee Engagement”, A Kenexa WorldTrends Report.

uninspired and disengaged with their activities²⁵—working just for the pay check. This has a clear and direct impact on productivity and emotional well-being. During 2011, the UK's Prime Minister launched the '*Employee Engagement Task Force*', because if the UK moved its engagement levels to the middle of the top quartile "this would be associated with a £ 25.8bn increase in GDP"²⁶. The social challenge blighting the US and Europe urgently needs tackling with an innovative application.

Could be stated that immaterial communication could help reduce this business epidemic? It would be naïve to answer positively. However, as stated throughout the whole article, this soft-skill definitively will help open new doors for human development and leadership strengthening. As stated during the article, in 2016, Surf-Management—a vanguard consultancy company—began a project using heart variability, neuroplasticity, quantic humanism, and the insights of cellular biology to do prototyping for measuring immaterial communication. They called it OCI—Organizational Coherence Index. This ongoing research is a real application and operationalization of immaterial communication, so it needs further development and future research is needed.

In order to construct the OCI, four scholars, very close to this immaterial communication research, selected two proven tools from one American company and one German one. This selection was after a review of what the markets offered in 2016. Both had the scientific background, long-time application, and R&D²⁷ departments for permanent innovation. Also, both used vanguard science. The Inner Balance® and Mars-III® were selected, from HeartMath Institute²⁸ and BruceCopen²⁹, respectively. After that, the R&D unit of Surf-Management Company started a 2-year long process that ended in 2018 with a service to be offered to companies around the world³⁰. The OCI, as mentioned.

The next stage was to do a piloting. The OCI is a 120-long questionnaire about soft-skills needed in an organization, including the immaterial communication. This questionnaire emerged from the synergy of the holistic management model by the Colombian Chapter of the Humanistic Management Network, with the eastern model by Tai-Chi organizational coach and director of Stresstech Inc. Later, the expert in using MarsIII uploaded the questionnaire into the quantum machine. In the coming four months four pilots were done in four Colombian companies, ranging from 5 employees to 250. Because of space, it is difficult to present all the information here. Also, this is an ongoing research and Surf-Management does not allow to describe all in this article. What can be said is that using the logos of the four companies, the quantum technology *measured* the energy vibrations of each question and a number from 0 to 100 emerged. The consultants of Surf-Management then wrote a report.

Once with the owners of each company, collectively the report was read. After that, the consultants asked: what is the correlation between what you just read and the experienced reality in your company? The answers were: 85%, 85%, 95%, and 80%! This is science. Future research is needed to be sure that was measured is what actually the machine measured. This research, coupled with the quantum epistemological framework where this research is founded—Quantic Humanism—would help us create a novel ontological approach towards leadership soft-skills competencies. It would also help us to map a holistic view of the interconnections between material communication—verbal and non-verbal, and immaterial communication.

²⁵ See Towers Watson at <http://www.towerswatson.com/en/Insights/IC-Types/Survey-Research-Results/2012/07/2012-Towers-Watson-Global-Workforce-Study> and/or Gallup's <http://www.gallup.com/strategicconsulting/164735/state-global-workplace.aspx> surfed at 2014.

²⁶ Ibid.

²⁷ See <https://www.heartmath.org/research/> and <https://www.brucecopen.com> or <http://copen.de/technologie/>

²⁸ Visit <https://store.heartmath.org/Inner-Balance-Sensor/>

²⁹ Visit <https://www.brucecopen.com/mars-iii.html>

³⁰ Visit <https://www.quantichumanism.org/blog/projects/bio-inspirometer/>

Also important for the future research of this novel construct is to control for cultural and time variables. Even though the work by several scholars—done around the world, mainly Western Northern countries—are used here, in addition to the global business cases researched and published by the Humanistic Management Network, that confirm empirically that immaterial communication is a human sense/phenomenon, it would be important to continue this research in the future taking into account the subtleties of culture and management paradigms.

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APPENDICES

