



# Zero Distance Cultural Versions and their Scientific Quantum Management Theories

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## ABSTRACT

We hypothesize that Zero Distance is the soul of any Future Quantum Management Theory. Viewed through heuristic lenses of Mathematical sciences and cultural anthropology, Zero Distance reveals its natural complexity and its psycholinguistic interpretative diversity reflecting many Scientific Quantum Management theories. Tools presented in this paper allow exploring the heuristic potential of the Quantum Management Science through scientific meanings of Zero Distance and its relation with Newtonian Management where the past and the future are present in our eyes. In this landscape classifying Quantum Management theories in the realm of Management Sciences is of greatest interest for management scientists.

**Key words:** Cultural identity, Multidimensional Cultural Metric Space, RenDanHeyi, Zero Distance, Zero Distance Quantum Management Theories.

## 1. INTRODUCTION

“Danah Zohar’ Zero Distance is a tour de force exposition of the 21<sup>st</sup> century quantum organization as a complex adaptive system –an inevitable evolution of the rigid, non adaptive bureaucratic structures of the 20<sup>th</sup> century”.

These words from Stephen Denning, Author of the Age of Agile, shows that *Zero Distance Management in the Quantum Age* by Danah Zohar is undoubtedly a reference work in modern managerial sciences deeply inspired by the Quantum paradigm. As a powerful living scientific concept, Zero Distance is successfully implemented in the China Haier's Group crystallized in the RenDanHeyi business leading model in the Internet of Thing (IoT) Era.

Being a key concept, its scientific study is of crucial importance to advancement of management sciences whose foundations are to be settled [1]

As a vibrating key notion whose importance is considerable in both theoretical and empirical grounds, the scientific analysis is of greatest importance in the construction of scientific foundations of Quantum management science for future [2].

Having discovered many scientific versions of Zero Distance, this paper highlights their underlying quantum management theories.

Because the managerial sciences affect our lives regardless the social and cultural groups to which we belong and because Quantum Management attempts to replace Taylorism, the following question of highest importance in the construction of the future management theories arise:

Does the concept of Zero Distance hide many Quantum Management Theories sharing their theoretical and empirical power with of the Zoharian Quantum Management theory?

This paper will attempt to give a heuristic scope to the concept of Zero Distance and to seek an answer to this essential question in the following sections.

## 2. METAMATHEMATICAL DEFINITION OF ZERO DISTANCE

According to the first axiom of the Metric Spaces Theory, the distance  $d$  between two objects  $x_1$  and  $x_2$  is null, *if and only if they are equal*. Expressed in standard mathematical language, we have:

$$1) \quad d(x_1, x_2) = 0 \Leftrightarrow x_1 = x_2$$

Extended to metamathematical metric spaces, this relation holds.

By metamathematical metric spaces, we mean all non mathematical spaces which resist to modern mathematical analysis. These metamathematical spaces cover all imaginable fields of knowledge among which are, Private Spaces, Scientific and Industrial Spaces, Public Spaces, Geopolitical Spaces.

All objects in these Measurable Sociocultural Spaces are entangled and this entanglement can be translated in the universal language of science.

Since all macroscopic objects consist of subatomic waves-particles, this implies that of any object  $X_i$  consists of both a wave  $\Psi_i$  and a particle  $P_i$  corresponding to Mind and Body in psychological and social sciences. Hence, we have:

$$2) \quad X_i = \Psi_i P_i$$

Injecting the relation 2) into the relation 1) it results:

$$3) \quad d(\Psi_1 P_1, \Psi_2 P_2) = 0 \Leftrightarrow \Psi_1 P_1 = \Psi_2 P_2$$

Because  $\Psi_1$  and  $\Psi_2$  are extended to all the space and since the equation

$$4) d(\psi_1, P_1) = d(\psi_2, P_2) = 0$$

This relation implies the following Entanglement Formula:

$$5) \begin{cases} d(X_1, X_2) > 0 \\ d(X, X_2) = 0 | \psi_1 \times \psi_2 \end{cases}$$

Or

$$6) \begin{cases} d(P_1, P_2) \neq 0 \\ d(P_1, P_2) = 0 | \psi_1 \times \psi_2 \end{cases}$$

$P_1$  is equal to  $P_2$  with respect to  $\psi_1 \times \psi_2$  regardless their distance.

In this perspective, the objects  $X_i$  can be elements of any Space as a cultural construction.

In the light of the above mathematical definition of Zero Distance generalized twelve Quantum Management theories will be defined through the objective lens of the cultural diversity.

Because Physical Spaces and the Cultural Spaces are different interacting Complex Adaptive Systems existing both out and of our mind and in our mind or in our perception of the world influenced by educational systems, the complexity and the plurality of Zero Distance Space are essential to modeling anthropological and social phenomena inside any cultural system.

These dynamic and living cultural spaces in which we are all interlinked as Creators of Realities allow us to present the following scientific versions of Quantum Management

### 3. RENDANHEYI: A MULTIDIMENSIONAL CULTURAL METRIC SPACE

Being a Cultural Complex Adaptive System, the RenDanHeyi business model is a image of Zero Distance whose existence requires fundamental components among which are Humans, Consciousness, Energy, Matter, Space, Time and Information. A thorough study can allow a scientific codification of RenDanHeyi as a Multidimensional Cultural Metric Space where the following relations holds:

- 1)  $d(\text{Ren}, \text{Dan}) \geq 0 | (x, y, z, t)$
- 2)  $d(\text{Ren}, \text{Dan}) = 0 | P = V_{\text{Ren}} \times V_{\text{Dan}} \in \text{Heyi}$

The first relation entails: the distance between Ren (employees) and Dan (users) is at least zero with respect to space and time; the second relation expresses the following fact: the distance between Ren and Dan is zero with respect to a product P which is the embodiment of the value of the product created by employees  $V_{\text{Ren}}$  and experienced by users  $V_{\text{Dan}}$ . This product P is an object of Heyi (energy which connects of employees and users and link the value created by employees to the value experienced by users) [3]

### 4. WHY DOES ZERO DISTANCE REFLECT MANY SCIENTIFIC QUANTUM MANAGEMENT THEORIES?

We know that the term Distance always refers to a measurement in a given space. That space can be mathematical, physical, biological, psychological, social or cultural in its widest sense.

“No two cultures live conceptually in the same kind of space and time. Space and time, like language itself, are works of art, and like language they help condition and direct practical action. Long before Kant announced that time and space were categories of the mind, long before the mathematicians discovered that there were conceivable and rational forms of space other than the form described by Euclid, mankind at large had acted on

this premise Like the Englishman in France who thought that bread was the right name for le pain each culture believes that every other kind of space and time is an approximation to or a perversion of a real space and time in which it lives” [4]

This pertinent claim by Lewis Mumford highlights a none null distance between two cultural groups in space time. This leads to conceive Zero Distance (Space and Time) on the ground of the cultural identity. What does it stand for?

The cultural identity can be define, according to Collier and Thomas, as a negotiated “Identification with and perceived acceptance into a group that has shared systems of symbols and meanings as well as norms/rules for conduct” [5]

In such a cultural space time , the **Distance** between two persons is **Zero** in respect to the shared symbols, ideas, projects and aspirations or beliefs. In this perspective, the concept of Zero Distance can be fully understood.

The Zoharian combination of the words **Zero** and **Distance** is a psycho-cognitive and sociocultural construction whose meaning naturally varies from one Cultural Coordinate System to another Cultural Reference Frame inside of which language plays a key role. “Words do not have twins in every language. Sometimes they have only distant cousins and sometimes they are not even related” [6].

The evidence of this statement by Truong rooted in the fertile ground of the multidimensional psycholinguistic reality shows that words such as Zero Distance which has been expressed in (meta) mathematical language perceived through cultural lenses of social barriers must produce many Zero Distance scientific versions. Since the Zoharian Zero Distance is one of these versions corresponding to her Theory, other versions must logically correspond to a particular Quantum Management Theory.

In addition, because Zero Distance can be perceived as an outcome of a measurement on a socio-psycho-physical metric space whose objects obey to the laws of the quantum physics. Since the Measurement Problem is the soul of Quantum Physics arise. In this atmosphere, each Zero Distance version rules as the potential basis of a particular quantum management theory.

Finally, the Cultural Zero Distance Perception is deeply rooted in the collective consciousness of cultural group where the mathematical Zero Distance is a particular case.

## 5. THE ZERO DISTANCE SPACE QUANTUM MANAGEMENT THEORIES

The Zero Distance Space Quantum Management Theories are characterized by *the Space Cancellation Principle*. According to this principle the time of executing a task by a agent is independent to the Distance between this one and his work place. The evidence of this principle in our interconnected world is remarkable. Being in Central Africa, for instance, I can work in real time in the USA via internet.

Being multi scaled, spaces can be considered, for technical reasons, in their local, global, galactic and cosmic perceptions relatively to people sharing the same cultural lens.

Since the meaning of local, global, galactic and cosmic can depend to cultural coordinate systems, the following classification will be logically perceived in the landscape of cultural diversities in which all cultural entities are “laboratories” from which their members have “objective” visions of the world. From this perspective, what is local for one culture can be global for another one and what is galactic for one cultural entity can be viewed as cosmic for another. None of them possess an absolute truth; all of them are right in respect to their cultural coordinate system. A cultural theory of relativity can be invented to modeling these facts.

The following sections attempt to reflect this reality highlighting the existence of many quantum management theories where local, global, galactic and cosmic scale meanings depend to a cultural system psychology inside of which individuals have the same perception of reality.

### **5.1. THE ZERO DISTANCE LOCAL SPACE QUANTUM MANAGEMENT THEORY**

The Zero Distance Local Space Quantum Management Theory is applied to people who believe that only local interactions are essential to their living; outside their local circle considered as their 'self', they behave like being face to strangers, far from them, and can be aggressive to some extent. Thus local interactions are entangled in opposition to the global ones or beyond.

### **5.2. THE ZERO DISTANCE GLOBAL SPACE QUANTUM MANAGEMENT THEORY**

The Zero Distance Global Space Quantum Management Theory is applied to people who believe that only global interactions are entangled. People living outside of what they consider as global space, they can be treated as enemies,

### **5.3. THE ZERO DISTANCE GALACTIC SPACE QUANTUM MANAGEMENT THEORY**

The Zero Distance Galactic Space Quantum Management Theory is applied to people who believe that galactic socio-cultural interactions are entangled. They are convinced that they are children of stellar civilizations. Their advanced technologies allow them communicate or move at supra luminal speeds.

### **5.4. THE ZERO DISTANCE COSMIC SPACE QUANTUM MANAGEMENT THEORY**

The Zero Distance Cosmic Space Quantum Management Theory is rooted in the heart of persons who are conscious of their cosmic origins. They know that everything –animals, plants, minerals– is interconnected; they are able to work in real time in farthest regions of the universe. In this cosmic reality, the cosmic egg can be viewed as a point-like like particle interacting with a potentially infinite number of other point-like particles cosmic eggs.

In all these cases, Zero Distance Space engenders local, global, galactic and cosmic cultural identities.

In the following section we are briefly presenting some Zero Distance Time Quantum Management theories.

## **6. THE ZERO DISTANCE TIME QUANTUM MANAGEMENT THEORIES**

The Zero Distance Time Quantum Management Theories reflects both the Cultural Time and Zero Perceptions.

The comprehension of time in Zero Distance Time Quantum Management Theories is based on the Cultural Time Perception (CTP) through which each cultural group has a cultural way of perceiving time. Inherent to all individuals belonging to a cultural group, we know that time encompasses not only our ideas of past, present and future, but also our conception of beginning and end, as well as efficiency and sustainability. Thus, the way time is felt and managed influences all aspects of our life – from our work preferences to our psychology of saving and our political or spiritual ideologies. [7], [8].

The Cultural Time Perception thus inherently plays a key role in the Zero Distance Time Quantum Management Theories whose foundations must naturally encompass all perceptions of time affecting individual lives as well as those of their organizations.

For technical reasons, we have divided the linear time into four parts whose: the Short Run Time, the Mean Run Time, Long Run time and the Very Long Run Time. Being cultural production the perception of short, mean, long and very long runs naturally varies from a cultural coordinate system to another

The philosophical implications of the Time Cancellation is extraordinary large in the limitation of Quantum Philosophy dominated by probabilities and uncertainties and the return in force of Objectivity and Determinism.

### **6.1. THE ZERO DISTANCE SHORT-TERM TIME QUANTUM MANAGEMENT THEORY**

The Zero Distance Short Term Time Quantum Management Theory is applied to a cultural system in which individuals who have a firm conviction that short term events are present in their eyes, they can be known with a mathematical precision. This individuals share the same conviction in the short-term past events. Their convictions are deeply rooted in the practical ground.

### **6.2. THE ZERO DISTANCE MEAN-TERM TIME QUANTUM MANAGEMENT THEORY**

The Zero Distance Mean-Term Time Quantum Management Theory is applied to a cultural system in which individuals who have a firm conviction that mean term events are present in their eyes, they can be known with a mathematical precision. This individuals share the same conviction in the mean term past events. Their convictions are deeply rooted in the practical ground.

### **6.3. THE ZERO DISTANCE LONG-TERM TIME QUANTUM MANAGEMENT THEORY**

The Zero Distance Long-Term Time Quantum Management Theory is applied to a cultural system in which individuals have a firm conviction that long term events are present in their eyes, they can be known with a mathematical precision. This individuals share the same conviction in the long term past events. Their convictions are deeply rooted in the practical ground.

### **6.4. THE ZERO DISTANCE VERY LONG-TERM TIME QUANTUM MANAGEMENT THEORY**

The Zero Distance Very Long Term Time Quantum Management Theory is applied to a cultural system in which individuals who are convinced that very long term events are predictable with a high accuracy. This individuals share the same conviction in the very long term past events. Their convictions are deeply rooted in the practical ground.

## **7. THE ZERO DISTANCE SPACE-TIME QUANTUM MANAGEMENT THEORIES**

The Zero Distance Space-Time Quantum Management Theories are characterized by *the Space-Time Cancellation Principle*. This principle entails: any portion of space-time can be reduced to a point. One of the corollary of this principle is "Past and Future are both in the Present in any place". The philosophical implications of the Space-Time Cancellation principle is extraordinary large showing the limitation of Quantum Philosophy in its probabilistic version and the return in force of Objectivity, Determinism and Relativity.

<b>ZDQM Theories</b>	<b>Local Space</b>	<b>Global Space</b>	<b>Galactic Space</b>	<b>Cosmic Space</b>
<b>Short Term Time</b>	Zero Distance Local Space Short Term Time Quantum Management Theory	Zero Distance Global Space Short Term Time Quantum Management Theory	Zero Distance Galactic Space Short Term Time Quantum Management Theory	Zero Distance Cosmic Space Short Term Time Quantum Management Theory
<b>Mean Term Time</b>	Zero Distance Local Space Mean Term Time Quantum Management Theory	Zero Distance Global Space Mean Term Time Quantum Management Theory	Zero Distance Galactic Space Mean Term Quantum Management Theory	Zero Distance Cosmic Space Mean Term Quantum Management Theory
<b>Long Term Time</b>	Zero Distance Local Space Long Term Time Quantum Management Theory	Zero Distance Global Space Long Term Time Quantum Management Theory	Zero Distance Galactic Space Long Term Time Quantum Management Theory	Zero Distance Cosmic Space Long Term Time Quantum Management Theory
<b>Very Long Term Time</b>	Zero Distance Local Space Very Long Term Time Quantum Management Theory	Zero Distance Global Space Very Long Term Quantum Management Theory	Zero Distance Galactic Space Very Long Term Quantum Management Theory	Zero Distance Cosmic Space Very Long Term Time Quantum Management Theory

This matrix is a non exhaustive bird’s eye view of theoretical field of Zero-Distance Quantum Management Theories inside of which any interpretation of quantum physics can emerge to modeling a particular quantum management theory.

## 8. CONCLUSION

The scientific analysis the Zero Distance, a soul of the Zoharian Quantum Management Theory, reveals its complexity its multidimensional cultural interpretations. Through a scientific analysis of RenDanHeyi, we have discovered that Zero Distance is a Consciousness-Energy-Matter-Space-Time-Information measure in a Multidimensional Cultural Metric Space-Time. In this Cultural Complex Adaptive System, we have constructed a non holistic matrix of Quantum Management Theories inside of which any particular Quantum Management Theory can emerge by injecting a specific quantum physics interpretation of reality. In this landscape, the strongest version of Zero, Distance Quantum Management Theory meets the Laplace’s Demon where past and future are present in our eyes.

Our modest contribution shows that the Quantum Management Science foundations are still in their primary stage and highlights an extraordinary current of scientific quantum theories reflecting the complexity of cultural realities.

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