
Relevance and Foundations of Collective Intelligence

We believe that improving the level of Collective Intelligence in companies is an untapped resource that is vital, substantial and sustainable. We think that understanding what produces Collective Intelligence and Collective Unintelligence is essential. To explain this, it is useful:

- to point out the relevance of the development of Collective Intelligence in the current economic context and its requirements;

- to understand the foundations of Collective Intelligence, which, in this context, allow businesses to adapt most effectively, frequently and without becoming destabilized.

As you will see, this reflection will naturally lead us to place People – and so also the knowledge we might have – at the center of the issue of Collective Intelligence.

1.1. Adapting to a world in complete transformation

The question of understanding the productive mechanisms of Collective Intelligence is crucial for anyone who wants to take part in and adapt to the accelerated transformation of both production and global economic behavior. Through whatever lens we consider our era – historical, sociological, economic, technological, cultural, geostrategic or even climatological – there is a unanimous acknowledgment that an unprecedented transformation is underway.

More specifically, what transformations does this entail?

First of all, the USA–Europe–Japan trio no longer dominates. While a large part of Europe clings desperately to their old certainties, Japan and the USA are seeing their economic and technological domination increasingly challenged by countries considered as “emerging” by Western countries, not without some condescension. Condescension? Yes, because even if their political systems are different from Western democracies, especially those of China and Russia, you need to only take a casual stroll through these countries to see that their development, although still too heterogeneous and unequal, is spectacularly obvious. To confirm this, there is a basic indicator: the purchasing power of the middle classes, which, as it happens, is growing considerably. For example, as of now, the Brazilian middle class represents about 50% of the total population of the country (more than 100 million people) and has incomes ranging from \$520 to \$2,000 per month [OEC 10b]. China offers a second example, as Jean-Yves Carfantan [CAR 09] explains, showing that China’s middle class is divided into two levels: an “upper” level, which includes 105 million consumers, with incomes from \$4,800 to \$12,500 per year, and a “lower” level, which includes about 190 million new consumers, with incomes ranging from \$3,000 to \$4,800 per year. According to his study, it appears that the Chinese middle class has changed its lifestyle choices in relation to:

- mobility (more car purchases);
- housing (decoration, home improvement, new technologies);
- cooking (household appliances);
- food (more protein).

The global middle class has seen an unprecedented growth, as much in terms of global volume as in consumption per person. Similarly, consumer choices change as the country develops.

What are the consequences of these economic “eruptions” for our subject? Very simply, a challenge for traditionally Western economic leadership in favor of a new geo-economic “match”, including countries like Brazil, Russia, India, China, South Africa, Indonesia, Australia, South Korea, Thailand, Turkey, Mexico, Chile, Niger, etc. Consequently, the

global economic “pie” is being divided into a greater number of parts, whose dimensions are extremely volatile; competition is increasing as it is diversifying. In Europe, a substantial part – notably the “greatest minds” – remain stuck in their political excuses and their frantic quest for comfort and ease, which translates into a growing need for a thorough overhaul of our models of wealth creation by a high-quality, multifunctional and collective reflection. This change seems monumental for southern Europe, as policies and populations are sinking into either characteristic denial or major suffering under the pressures of a sudden obsession with “no deficit” among the leading European classes, provoking economic recession, social paralysis or rebellion. We can give examples of “affronts” from all over the world, from the victory of Syriza in Greece to the rise in extreme right factions in Europe, which are different manifestations of a common disease – nothing in any case that would be good for the economy, or that reflects a high Collective Intelligence. On the contrary, these behaviors are more like the survival behaviors described later in this book which are instinctive and often not very constructive, rather than a controlled collective pragmatism. In short, faced with the recognized appearance of new economic powers (recall that, in 1999, the G8 became the G20), it is time to consider our collective capacity to return to an optimistic dynamic which supports private and public projects that are independent from any election and creates rewarding jobs, capable of meeting the level of optimism, culture of pragmatism and proactiveness of modern powers.

More precisely, on the topic of optimism, we will cite François Lafargue, doctor of geopolitics and political science and a specialist in emerging powers: “*One of the common, essential points of emerging powers is a confidence about the future. A confidence that nourishes optimism and supports growth...*”. In early 2011, a survey by Pew Research Center revealed that 87% of the Chinese population are confident about the future, as are 50% of Brazilians – although only 30% of Americans and 26% of the French population feel the same way. In the words of Professor Axelle Degans [DEG 11], “*Hope has switched sides!*”. Finally, we will cite *Fondapol*’s survey of “global youth”, which highlights that French youth are one of the most anxious about globalization. From all this, it is relevant to understand that the world is reeling, with a West that is seized with the vertigo, unfortunately justified, of a loss of social position: “The emerging

middle class will represent 30% of the global population in ten years and will be the prime market on the planet”, estimates a report by the Boston Consulting Group.

So, is confidence the key to the success of these countries? Yes, we think so, because confidence is an undeniable parameter for success. But what confidence are we talking about? Is it the confidence of the power of one’s country-continent, with all that entails in terms of mass effect for domestic markets and energy resources? Is it confidence as a kind of cyclical shift: “you dominated once, now it’s our turn?” It is not just that... This optimism originates from a confidence in a collective capacity to face the challenges of tomorrow, thanks to an awareness of its geographical or geological assets, but also and above all, thanks to a form of energy, a spirit that is not anchored in the solutions of the past, a capacity to collectively defend its interests. More than this, it is a confidence in an ability to rely on youth and to offer them education and training adapted to the world in the 21st Century. Citing the OECD [OEC 10a], *“if the current trends continue, China and India will count 40% of all young graduates with tertiary degrees in the G20 countries and the OECD by 2020, contrary to only slightly more than 25% for the United States and the countries of the European Union”*.

Yet, the equation is simple: more graduates in emerging countries = more innovations.

The increase in tertiary graduates in emerging countries is not without influence on the world economy, especially in its innovative sectors. Simply recall the evolution of the Japanese automobile from the 1970s. Initially, we smiled at them, then we were annoyed by these cars, almost copies of European models, a bit dated, with old-fashioned interior layouts and suspensions that were especially unsuitable for our road networks, whose unique assets included a low price, a proven reliability, and ... a serial car radio! Alas, Europeans, and especially Americans, did not smile long, and the annoyance was quickly replaced by concern, so exemplary was the rise to power, as spectacular as pragmatic, of this industry, particularly in relation to... *innovation*. For the Japanese automobile, the copy was just one step in its development; after that, in the car industry as in other domains, Japan has not ceased to amaze the world with its *innovating* potential.

In other words, if a country is capable of putting to work a part of its population with degrees and quality technical knowledge, then this country gives itself the possibility of developing an industry that does not make knock-offs or buy expensive patents, but an industry that produces and sells (at a high price!) new patents at the source of major business trends. So, in light of the increase in the number of tertiary graduates emerging, innovation has changed place, and with it, profitable products, giving rise to an increasingly well-off middle class. The circle is complete.

So, confidence would be at the heart of success. However, as we have seen, this hardly means an ill-constructed, pretentious confidence. It is a kind of confidence in a collective capacity to innovate. Innovation is now the condition *sine qua non* of success, today more than ever. To confirm this, you need only observe the increase in the ability to develop new technologies around the world. For example, to reach a market of 50 million people, it took 38 years for radio, 13 years for television, 4 years for Internet, 3 years for Apple with its iPod, 2 years for Facebook and 1 year for Google.

Yes, today successes have a short shelf life, and the capacity to innovate is crucial.

In this sense, Heraclitus was particularly wise when he wrote, “*Change is the only constant*”. Yet, some of our readers who have been confronted by the need to develop a service, department, or work method or relocate their company, know how difficult it can be to effect a change. Later in this book, we will discuss techniques for executing changes, but the extreme difficulty of implementing changes, particularly here in France, is worthy of reflection. The world is developing so quickly nowadays that if we want our companies to survive, there is no other option but to become an actor and supporter of change for the benefit of our business, making the most of the skills present in the company team.

How can we “make the most” of this? Once again, we will detail the procedures to engage people in change in an effective and lasting manner, but to understand the thrust of our argument, think about how Collective Intelligence is *structurally* useful, or in other words, how Collective Intelligence – analyzed, dissected, understood, controlled – is at the root of collective successes, especially in complex or extremely competitive

spheres. Now that the word “structure” has been used, it is time to focus on the “pillars” of a company in development, or what we consider to be the structural bases of Collective Intelligence. What are these foundations?

1.2. The pillars of a company in development, the foundations of Collective Intelligence

Consider the schema given in Figure 1.1.

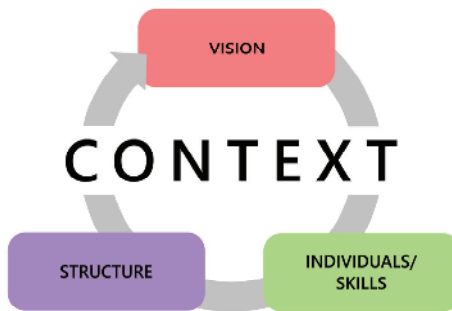


Figure 1.1. *The three pillars of a Company in Development (inspired by the work of Ikujiro Nonaka [NON 95])*

This schema lays out the basics of Collective Intelligence in Business. What does it tell us?

Simply, that a company, regardless of its size, relies on three *interdependent* foundations:

– The Vision. This is the direction of the Company, which justifies the existence of all structures and skills within it. The Vision gives meaning to action, in terms of objectives and resources.

– The Structure. This is unique to each company and is often easily associated with a certain type of structure (pyramid, matrix, etc.). This is the combination, the arrangement of the whole, that gives structure to the actions carrying out the Vision.

– The Individuals and their skills. Diverse and varied, they must adapt, using their skills and behaviors, to the Vision and its evolutions according to the contextual requirements.

Furthermore, outside a Company is the context that shapes its development: the market, institutions, business contingencies (exportation rules, etc.), consumers, trends, competition, law, taxes, geopolitics, etc. This multifaceted context is constantly changing and requires that a Company gather information that allows it to understand these changes so that this information can be known and processed by services and departments to enrich the understanding of decision-making bodies that will assess the impact on the Vision or the objectives, and, if necessary, modify the margin or the direction of the Company.

Of course, if people do not communicate, if they remain closed off in silos and withhold facts, then this precious information will only partially penetrate the Company. This means that the Vision will be somewhat out of sync, inadequate and stale due to lack of visibility. Information that circulates poorly in a Company creates a short-sightedness in that Company. Information, freely and effectively discussed, fosters smart decision-making.

To succeed, or to survive, a Company must have the greatest possible understanding of the context in which it is developing. It is this comprehension of context that will guide changes and developments.

How do you use the schema of a “Company in Development?”

To recap, understanding its context will allow a Company to adapt. How? By working with the three essential parts: Vision, Structure and Individuals and their skills.

This schema (see Figure 1.1) teaches us that these pillars are *interdependent*. In other words, if one pillar of a Company is modified, the two others are *de facto* impacted and must be adapted as a consequence. In plain English, if we modify the Vision, we must also modify the Structure and Skills; if we modify the Structure, we must also modify the Vision and the Skills; and if we modify the Skills, Structure and Vision will also quickly become outdated in their current form.

In fact, it is essential to maximize the synergy between these pillars and, consequently, the quality of the *relationships* between people. This makes it possible for information to circulate as freely as possible, with the only limitation being the consideration of company interests (and not the ego of its managers or any unjustifiable form of a culture of secrets). It also means that this information can be processed by diverse skills due to the frequently multi-functional impact of this information, and that the obsessive search for objectivity in the analysis of facts can be consistently prioritized over all interpretative debate. These interpretations can then be calmly confirmed, free from any question of misplaced ego, etc. In short, it is necessary to first struggle against isolating infrastructures and take care, whenever possible, to validate the ability of different departments to work together. Second, it is essential to foster the quality of relationships between individuals, requiring that these be subordinate to the virtuous rules of the collective functioning, banishing all spontaneous demonstrations that may potentially inhibit the expression of potential solutions or alternative ideas. In other words, to increase the level of Collective Intelligence, a Company should increase the professionalization of relationships within it.

More specifically, what are the concrete consequences of this schema?

Generally, a Company gathers a certain amount of information from its context. Sometimes, this information leads to making decisions that will impact individuals and their skills, as well as the Structure and Vision.

Here are a few examples:

– **Example 1: a piece of information (or a large amount of information) has such an impact that it directly modifies the Vision of a Company.** For example, a contextual analysis may lead a bank to conclude the necessity of launching into the insurance sector. In this case, it is the modified Vision that requires the change and synergistic adaptations of the two other pillars. As it happens, the practice of this new profession, outside the usual scope of the banking profession, becomes “core business”. It is not hard to understand that succeeding in this new territory will require modifying the structure and adopting new skills internally. It is easy to imagine several obstacles to this, due to the attachment that several people have to the original model, or the impression of danger of not knowing how to adapt, or even the difficulty of working with new people who master skills that the old employees do not master, etc. In this case, the change impacts

first the Vision, then the Structure, and may come up against strong opposition from many people. It will be necessary to sell, convince and negotiate so that each person adapts, appropriating the Vision into their own professional field. This appropriation will depend on the quality of synergy between the three pillars.

– **Example 2: a structural change requires an adaptation of the Vision and Individuals/Skills.** Imagine a company that wants to modify its Structure. There are many examples of this, especially in large companies that have decided to move from a pyramid structure to a matrix structure in a part or all of their organization. On this subject, Eric Albert [ALB 11], President of IFAS, wrote the following about matrix structure organizations in the “Les Echos” newspaper, no. 20865, on 08/02/2011: *“We know, this is not the only paradox of business. Starting from common sense ideas, we can arrive at the inverse of the desired goal. The implementation of matrix structure organizations responds to a real problem: breaking the silos and baronies, whether they are territorial or technical. From this point forward, value increasingly stems from the quality of the transmission of information and the ability to work together. It is absolutely necessary to foster the fluidity of relations between actors from different areas. That is the goal of these organizations that multiply the points of contact. But in most cases, the right idea becomes unnecessarily complicated. Each company has not one boss, but many, and the complexity of its daily life is proportional to their number. The workload also increases in relation to the number of bosses. And then, it’s the direction, the desired logic, that isn’t the same anymore. In other words, the conduct has not evolved with the organization”. He concluded with this thought: “There is nothing worse than changing organizations without changing the people in them”.* These remarks are completely in line with our experience acquired in certain large companies within which we grafted a *matrix* organization structure over a *pyramid* structure. The result: inefficiency, stress and lack of direction. If we refer back to our schema, we know that a modification to the structure of a Company must *necessarily* be accompanied by a development of skills, even the behavior of individuals, as each structure consists of different ways to work together. This is problematic for two reasons:

– the intangible nature of behavior leads to many misgivings about change. Our society, and especially its experts, are not very comfortable with the intangible and consequently demonstrate a strong tendency toward defiance;

– learning new behaviors is much more complicated than learning a new skill, regardless of the hierarchical level, because behavioral changes require that everyone self-assess! Remember what Einstein said: *“It is harder to crack a prejudice than an atom”*.

Too frequently, due to a lack of knowledge about the mechanisms of Collective Intelligence, this difficulty jeopardizes the Vision–Structure–Individual synergy in the long term, as in the example provided by Eric Albert.

– Example 3: what happens when a change primarily affects individuals through their skills or behaviors?

For this example, allow us to draw on our experience as trainers to report the following scenario. A few years ago, a large pharmaceutical company asked us to intervene to build up the leadership skills of its middle managers, both in the headquarters and in field offices. The company in question explained that this desire for change was necessary because of the increasing complexity of the jobs of middle managers, which was mainly due to the following elements:

- with the advent of regional health centers, public health actors practicing in regional areas, it became necessary to tailor business and marketing strategies to more of a regional than a national scale. Our client expected its middle management to increase their ability to make proposals;
- the middle executives too often suffered from a lack of leadership;
- the turn-over rate was too high, with, especially, too high a number of departures of people with great potential.

We worked with them for a year and a half, with great success. Employees took part in a program that included training and coaching, confidence development, clearly defined behavioral changes, etc. At the same time, this training period coincided with an unexpected surpassing of national sales objectives! Translation: the “Individuals/Behavior” pillar had evolved. From that point on, our client encountered two negative effects:

- the middle managers, who had played the training game, expected their upper management to make the same kinds of changes. The upper managers did not, which caused great disappointment;

– the behavioral changes translated into a greater ability to propose solutions that were often innovative and so *demanded* more freedom in transverse work. Structural adaptations became necessary, which we had predicted since the beginning of the training process. Unfortunately, this point posed a problem because this structural development challenged the pre-eminence of certain executives managing certain areas. In other words, the structure, which had functioned correctly for a strictly pyramidal organization, had to evolve toward more flexibility and permeability. This called for a *new division of power*, which was not accepted at the time. Result: the company in question no longer wished to work with us! They wanted to be challenged, sure – but not at the highest level! And delegation, yes, of course, but not the delegation of power! A disappointing end, but a very common one nonetheless.

We would like to compare this phenomenon to a person who practices body-building consistently. After a year, it is likely that the width of their shoulders will have grown considerably. Before their training, they may have worn a particular size jacket – after, they will certainly need to move up a size.

In our example, one of the managing executives, a commercial director, really knew how to take advantage of these behavioral changes. During a seminar with their teams, this person greeted us with visible enthusiasm and told us that the results obtained had modified their Vision, because they had not expected to reach those objectives for another 2 years. These unexpected results suddenly allowed for a more ambitious Vision, in tune with the new efficiency of their team members.

1.3. Conclusion

This demonstrates the necessity of using synergy and intelligence to manipulate the three pillars of Business, which are, in a way, the anatomical structure of a Company. That is the relevance of this Vision–Structure–Individual combination to a given context, and it will need to be “shaped” continually, in the search for the best possible productivity.

This is at the core of Collective Intelligence in Business: how can Vision, Structure and Individuals be combined for the best results?

Our reader has undoubtedly become aware of a crucial point: Vision is elaborated by men and women, Structure is the grouping of men and women, and the Skills belong to the men and women who work within a Company.

In other words, whether working on Vision, Structure or Skills, People are at the heart of the process. People, with their sophisticated mechanics and complex (if a bit random at first) psychology – in other words, their diversity.

This sums up our profession: understanding how to optimize the knowledge of “Homo Enterprisus“ to better structure complementarity, working toward a synergy between the above-mentioned pillars, consistently producing more Collective Intelligence and, importantly, results. In this difficult equation, the diversity of individuals is an essential parameter that is important to appreciate in all its subtlety.