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Exploring the Techno-Corporate Gap. Context, Factors of Implementation and Perspectives

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ABSTRACT

The *techno-corporate gap* is a topic of growing relevance in business administration and more generally economic literature, as companies must face the emerging challenges of technological evolution and innovation. Referring to the discrepancy or distance between the technological sector and the world of organizations, the *techno-corporate gap* represents the difference in terms of speed, adoption, and understanding of new technologies between companies and the innovations emerging on the market today. This concept recalls the need for in-depth investigations of current trends as well as the company's propensity for innovation which, at the same time, involves the review of company strategies, new organizational formulations, and updates on the subject of accounting control. This work aims to approach these aspects precisely, from deepening the concept's intrinsic meaning to define new analytical horizons.

Il *divario tecno-aziendale* (in inglese *techno-corporate gap*) è un argomento di crescente rilevanza nella letteratura aziendale e più in generale economica, poiché le imprese devono affrontare le emergenti sfide dell'evoluzione tecnologica e dell'innovazione. Riferito alla discrepanza o alla distanza tra il settore tecnologico e il mondo delle aziende o delle organizzazioni, il *techno-corporate gap* rappresenta la differenza di velocità, adozione e comprensione delle nuove tecnologie tra le imprese e le innovazioni oggi emergenti sul mercato. Questo concetto richiama la necessità di indagini approfondite sulle tendenze in atto nonché sulla propensione aziendale all'innovazione che, contestualmente, comporta la rivisitazione delle strategie aziendali, nuove formulazioni organizzative e aggiornamenti in tema di rilevazione contabile. Questo lavoro si propone di approcciare proprio questi aspetti, partendo da un approfondimento del significato intrinseco del concetto per definire nuovi orizzonti analitici.

Keywords: Techno-corporate Gap, Corporate Governance, Corporate Innovation, Firm restructuring, Strategy Poker

1 – Introduction

After the great economic and financial crisis of 2007, the Covid-19 pandemic posed one of the greatest economic and social challenges humans have ever faced. Health effects aside, as far as the social and economic effects are concerned, direct understanding has come about as a result of regulatory impositions that have restricted not only transport and travel but also economic activities, inevitably slowing down the entire economic system. But can we claim to have fully understood the effects of this scale on companies and business?

This new climate in which both businesses and private citizens live can really be considered as unexplored, although there have been similar experiences in the last century (Casella, 2020). The pandemic has induced profound negative effects throughout the global economy (MacKinsey, 2021) affecting mainly the key points of companies' operational management-first of all the supply chain-together with the way companies have to relate to clients and consumers. Initially, the negative influences led to the closure of simple units, then of business units, and finally, for the companies in trouble, of the entire business. This was induced by multiple factors:

- the prolonged suspension of certain production and service activities;
- supply chain disruption and tighter regulation;
- the severe reduction in business sales;
- the liquidity problems of companies and organizations due to the blockage of activities;
- legal disputes over delays in orders and services

All this was accompanied by the payment of extraordinary costs for adjustments to business structures required by governments to continue operations using precautionary health measures to contain the pandemic spread. Therefore, the costs that companies have had to bear have paradoxically increased, but at the same time sales volumes and capacity utilization have decreased.

Some studies have already explained the critical effects on companies' revenues from 2020 (Piana, 2021).

These irrefutable data make it possible to outline and hypothesize new trends and possible scenarios induced by the pandemic (Figure 1):

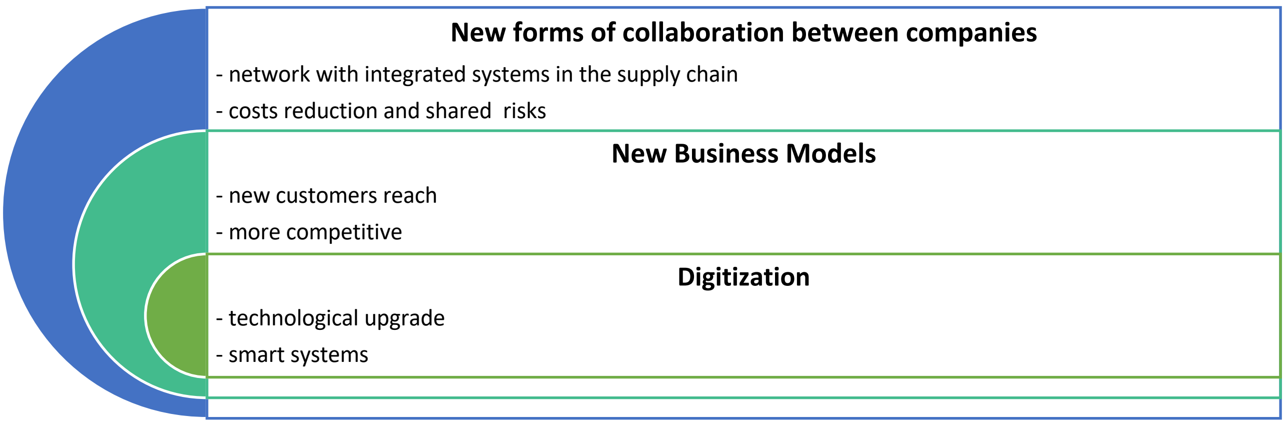

Fig. 1 – Scenarios induced by the pandemic crisis and the revolutionary process 4.0
(Source: author's elaboration)

The inability to individually ensure the smooth running of business operations and the provision of required services will increasingly induce companies to operate collegially in a network rather than continue with individualistic models. The perception of common problems will lead to the creation of business alliances aimed at stabilizing supply chains and formulating new models capable of achieving cost efficiency and maximizing performance.

However, this need will be realized in an increasing context of digitization. The impressive digital framework already underway will become so large that it will be able to absorb most of the investments made by companies to satisfy the new desires and upcoming needs of customers who are increasingly operating on the Internet.

Therefore, we are driven to argue that all those companies now considered traditional that, by inability or desire, will not want to adapt to such a change will be inexorably expelled from a system of advanced interconnection and operation 4.0.

2 – Emerging challenges for business after the pandemic

As in any crisis situation, it has to be said that, even in the case of the Covid-19 pandemic spread, entrepreneurial ability, adaptability, and business dynamism will make the difference. Although this principle is already widely expressed in the "classic" texts of business administration and economics (Rangone, 2022[a]; Schumpeter, 1954; Zappa, 1939), it remains more valid than ever today and should not be disregarded.

It is possible to see, in fact, that weak companies risk becoming weaker, while those that are already strong have the opportunity to become even stronger.

The case of Amazon is a more than obvious example. It holds an entrenched business model aimed at providing online services, has exponentially increased its revenue and stock market value (Borsa Italiana, 2021), and demonstrated a higher ROE compared with the industry sector one (Nasdaq, 2021).

In the analysis of the *status quaestionis*, it should be stressed at the same time that the income and wealth gap between households and individuals will also increase. This factor is by no means to be underestimated if we consider that in countries such as Italy, Spain and Greece - by way of example – the entrepreneurial fabric is made up for the most part of micro-small enterprises with family or unipersonal governance systems (Rangone, 2022[b]; Rangone, 2020; Rangone, 2018; Rangone, 2017). These perspectives therefore suggest how specific scenarios are emerging, harbingers of new needs and concerns but also the need for new bold actions by equally bold entrepreneurs.

The analysis of the trends outlined above in the introductory section demonstrates, therefore, some needs and challenges experienced by businesses today and can be summarized as follows:

- companies are experiencing rapid obsolescence in their business models;
- internal communication and organizational systems, toward and from employees and collaborators, are being reformulated in an innovative way;
- a deep and wise investment in smart asset is essential.

Only by implementing a real trend reversal, thus trying to satisfy these three points as best as possible, companies will be able to adapt not only to the change related to the current pandemic but equally to the 4.0 revolution already underway (Schwab, 2017).

2.1 – *Toward a radical restructuring of the corporate business model*

Among the main needs highlighted by companies and the imminent challenges to be faced, we note first of all the radical restructuring of the traditional business model. One must then ask: why? What are the motivations behind this important choice? And again, what are the criteria for achieving this in the best possible way? Motivations can have internal and external connotations. These include the following:

- goods or services require a different formulation in order to be accepted by clients and consumers who express new preferences, as they are influenced by new trends;
- threats from new market entrants;
- the product life cycle has reached a stage of maturity, which, if not reformulated and properly managed, risks leading to a phase of decline;
- corporate compliance to a new regulatory environment;
- particular market events and changed economic conditions.

Analyzing the current economic environment in which businesses operate today as a result of the pandemic spread, it is practically possible to find both the validity and contextuality of all the conditions.

The drama is inherent in the fact that all these conditions are interconnected. In fact, as graphically depicted in Figure 2, Covid-19 resulted in changing economic and market conditions due to the disruption of business operations with concomitant bankruptcy of many firms. In this case, in addition to the individual businesses, the entire supply chain was affected.

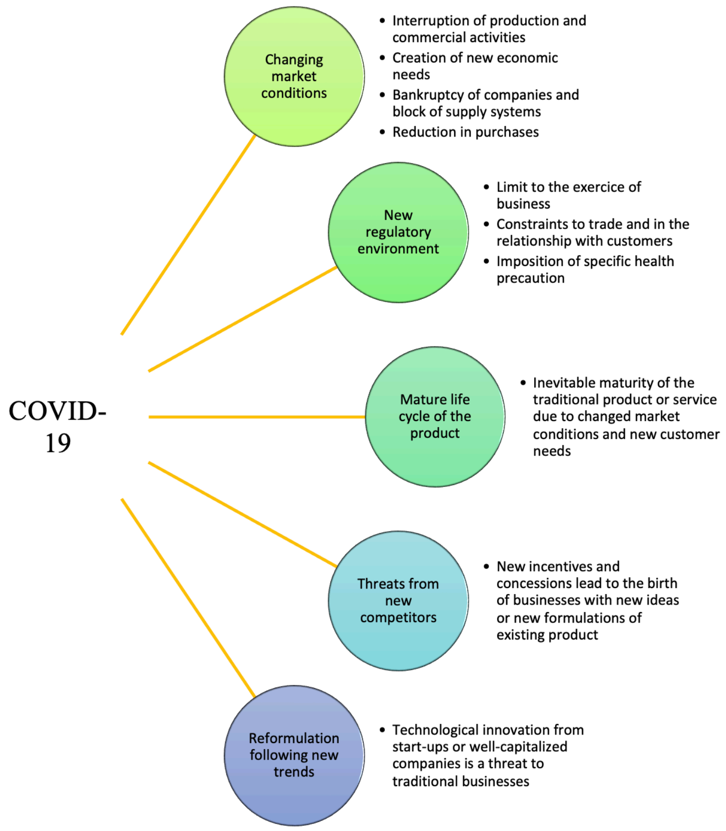

Fig. 2 – Relationship between pandemic spread of Covid-19 and conditions for implementation of business model renewal (Source: author's elaboration)

This situation was certainly supported by the regulatory impositions that limited the firms' activities during the lockdown. The same sanitary constraints, however necessary, have resulted in a real limitation in customer relations, leading to a distancing of the company from consumers. For many companies, particularly manufacturing companies, the business model tied to a traditional product has become obsolete. It has reached maturity because social distancing as well as the propensity to save has led to a change in the outlook of customers, who are more oriented toward online services and avoid products of secondary importance. These new needs, together with the specific tax benefits promoted by governments, have fomented the birth and spread of new companies (or the further imposition of large companies) aimed at filling the gap of traditional companies, not very accustomed to implement processes and offer technologically advanced services. Consequently, the continuous and constant change in the articulation of processes and services has led to the imposition of new trends, with the need for traditional companies to adopt new systems in order to be competitive or, even more, to survive in a fierce evolutionary context.

However, it is worth pointing out that the demand for services and products related to a smart business reality was not born with the pandemic. Covid-19 simply enhanced a process that was already underway, speeding up its deployment time but exaggerating the potential side effects for companies not yet involved. Through the restructuring of the business model, the company must try to use its resources more efficiently, making management and operational processes more effective and simpler (Figure 3).

But above all, precisely in light of the current needs induced by the pandemic spread, the restructuring of the business model must succeed in placing the company in a new context; this refers to a new era of 4.0 operations that places the company in a new relationship with customers and employees.

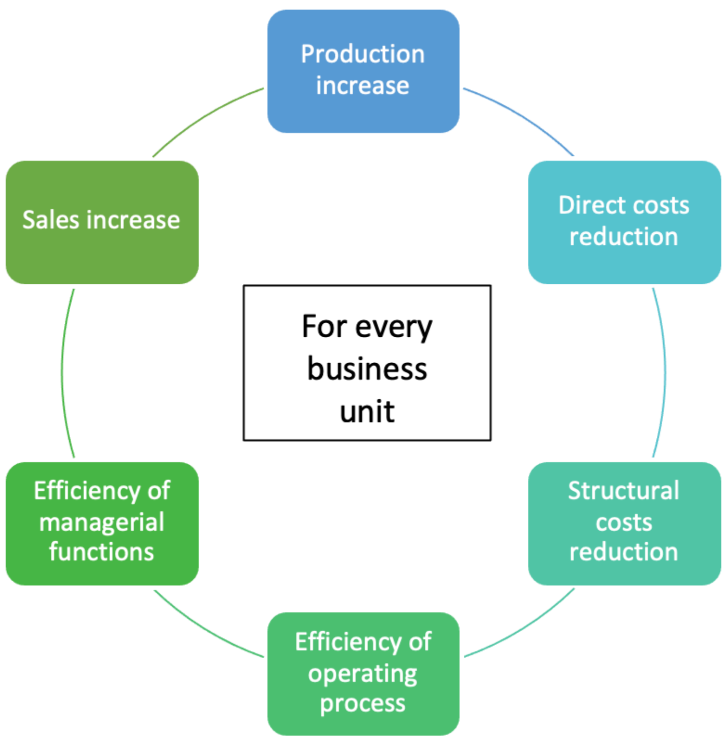

Fig 3 – Internal Key Points for the renewal of business model (Source: author's elaboration)

2.2 – *The need for an innovative firm upgrade*

Referring the reader to my specific work entitled *Managing Corporate Innovation. Determinants, Critical Issues and Success Factors*, published by Springer (2020) for any in-depth study of the topic, I find it interesting to highlight the key features of what I called "techno-corporate gap".

Could we ever think that Italy, one of the founding countries of the European Union but above all a destination symbol of good living, is today one of the European countries with a very high rate of *techno-corporate gap*?

According to a report realized by MET (2018), in 2017 traditional companies (those that do not use 4.0 technologies nor have future interventions planned) corresponded to 86.9% of the total yet.

The Center-North confirmed itself as the main promoter of investments in innovation, while the South showed a very low propensity to change. As part of the transformation toward Industry 4.0, a greater propensity for process innovation is also considered, together with product innovation connected to a decisive research and development activity. From this point of view, large companies are able to express a much higher potential and show a propensity to invest in both production and data technologies, while small companies (micro-small) prefer the specific use of data technologies.

Considering the investments in a more general way, from the report it emerges that the discriminating element among the different profiles is not to be found in the presence of a mere renewal of the physical capital, but rather in the willingness to act on the human capital together with the investment in ICT technologies. In fact, in order to satisfy their needs, companies resort mainly to human capital training (43.6%) and to the acquisition of external services (37.7%) (MET, 2018).

Analyzing this aspect also from the point of view of size, some substantial differences emerge, since the larger enterprises resort mainly to staff training and new hires, while micro and small enterprises, in addition to training, resort to a relatively greater extent to the purchase of services and external collaborations (MET, 2018). While on the one hand, such a policy may seem appropriate by virtue of a considered *make or buy* principle, it is worth stressing how much this situation can actually push toward a constant subjugation of micro-small companies to the wishes of service providers.

A very recent report from the Digital Innovation Observatory in SMEs (Polytechnic University of Milan, 2023) notes how only 9% of SMEs in Italy have approached advanced 4.0 projects, 36% characterizes those who are convinced to start, while 55% are reluctant or skeptical to carry them out (therefore it remains a "traditional company").

Considering that Italy is made up of SMEs, therefore, although slightly improving, our business context still shows a situation of enormous diffidence toward the use of technologies to support processes and products.

These data, which can be considered extremely dramatic if contextualized in an international economic system already largely centered on technological development, in our opinion clarify the presence of a limited *company logic* (Rangone, 2018) in Italy, still largely linked to traditionalist conceptions.

In spite of ourselves, this view is not only the expression of a *techno-corporate gap*, but as a whole it contributes to exalting an even more worrying technological gap with other international countries, as expressed by the indicators of the Global Innovation Index (WIPO, 2023).

3 – The techno-corporate gap

3.1 – *Definition and context*

The statistical results collected during these last years provide us with a very important tool to understand not only the renewal objective of companies but especially the strategy inherent in such processes on which the success of the investments themselves depends. Analyzing the raising of capital for reengineering from a qualitative point of view, it is possible to argue that the planning of a digitization process of the company is largely related to the governance structure. Reasoning in systemic terms (Mella, 2017; Senge, 2006), this assumption is expressed by the following relation:

$$\text{Innovation} \propto \text{Technology} \propto \text{Management} \propto \text{Corporate Governance}$$

This concatenation is intended to underline how the ability to achieve innovation is closely linked to and depends on the technological skills of the company's scientific team; in turn, the know-how of a company is bound to the managerial choices in terms of development of a new product, research of new and specific technical skills to better face the market competition or more generally for the needs of company reengineering. However, the management is conditioned by the eternal debate on the creation of value for shareholders (Kang *et al.*, 2017; Mella and Velo, 2007; Lazonick and O'Sullivan, 2000; Prahalad, 1994; Rappaport, 1986) or in small companies by the convictions of the founding owners (still linked to an artisan culture) and is largely conditioned by them. In order to avoid unnecessary misunderstandings, it is useful to underline that, talking about Corporate Governance, we do not refer to the simple shareholder structure but to the type of structure of the top management (shareholders and top managers) and the way they relate to each other and to their stakeholders (Rangone, 2017). In fact, governance establishes medium-long term objectives (in this specific case, the investment in innovation), but it is also constantly influenced by external dynamics that can be cultural (customs and traditions of the territory in which the company operates or the competence of the shareholders themselves and of the top managers), social (massive influence of stakeholders such as the mass media or political forces that discourage certain types of development), and even market (development of private equity initiatives, support of the banking system, high competition) (Figure 4).

Therefore, even if indirectly, the change in the governance structure and the perspectives connected to it can concretely act on the result in terms of innovation: recognizing the need to look for new managers specialized in innovation (innovation coach), approving new investments in the scientific sector, welcoming in its capital new partners to undertake new business initiatives and thus mitigate the risks, etc.

Furthermore, by using the "control theory" in terms of innovation creation, it is possible to identify different levels and levers that the firm can use (Rangone, 2020). *The techno-corporate gap* – understood as *"the margin due to the ability of firms to create innovation"* (expressed by the deviation between the target variable Y* and the effect variable Y) – can therefore be reduced thanks to countless strategic choices taken by governance (XN levers) that can be adopted individually or in combination:

- maintaining a high control governance structure capable of producing innovation technology internally (having experienced managers, internal R&D areas, with own or borrowed capital);

- search for new partners who will contribute capital by way of equity or contribute assets aimed at achieving new technology (logic of shared enterprise - open governance structure);
- development of strategic partnerships aimed at joining forces exclusively for joint development projects (typically found in the creation of joint ventures);
- membership of enterprise networks;
- drafting of technical agreements in order to be able to develop the technology internally without necessarily making investments.

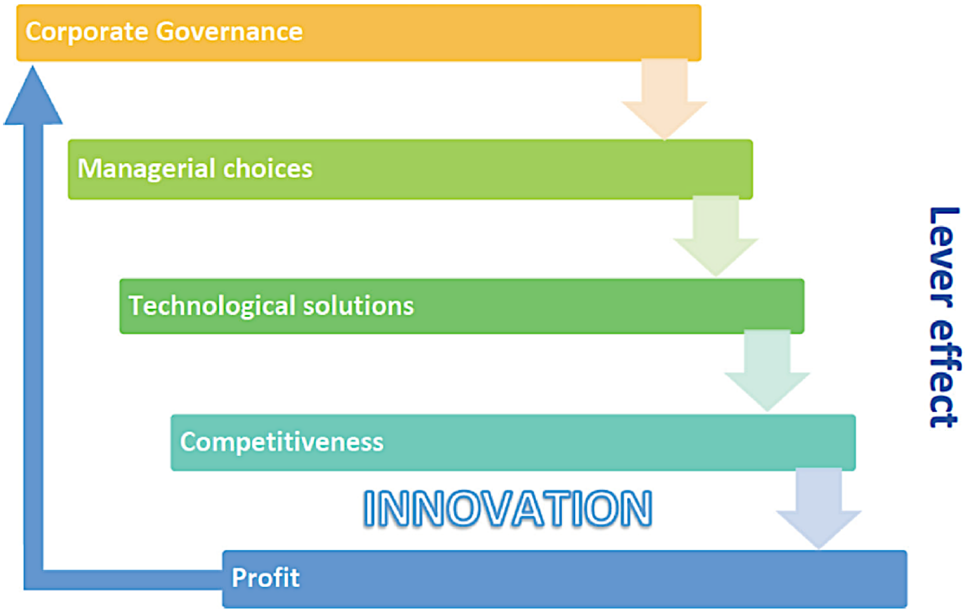

Fig. 4 – Cause-effect correlation system between corporate governance and innovation
(Source: author's elaboration)

In the light of the strategic solutions adopted, a series of causal diagrams (Ishikawa, 1976; Ishikawa, 1969) will take shape, which will positively or negatively influence the achievement of an adequate level of innovation. However, it is up to the system thinker or manager to be able to best identify the boundaries of the system being examined.

If we accept the *systemic thinking approach* (Senge, 2006) according to which the variation of a simple variable has a cumulative effect on the entire system, and how the loops in which the variables act are repetitive and recursive, then, from the results obtained in the field of innovation and data relating to the level of openness of corporate governance, this correlation becomes clear, homogeneous in all its aspects. Applying the systemic thinking to control theory (Mella, 2021), it is possible to consider systems in terms of variables (input, state, output) and evaluate the way in which they are interdependent within the company system also for the purpose of pursuing innovative processes. But the company system is a single element when considered within a larger context with which it constantly interacts and from which – as we have seen – it receives important influences. It is therefore useful to understand how these dynamic processes are also set in relation to the community, therefore, how the micro systems (or the micro behaviors) interact with the macro ones. To accomplish such an approach, it is possible to make use of the doctrine of Combinatory Systems of improvement and progress

(Mella, 2017, p. 59) which "generate progress" in the general state of a community because of the search by its agents for "individual improvement".

This theory starts from the assumption that the collectivity/community is made up of agents that, operating individually, searching for "individual improvement", develop micro behaviors, but as a whole, they are able to determine a macro behavior that "generates progress" in the whole community.

From Figure 5, it is possible to observe the way in which the *techno-corporate gap* – becomes a crucial expression of "micro" behavior; if multiplied countless times, it characterizes the "macro" behavior of a community towards innovation and, therefore, it affects the technological gap experienced by some countries - including Italy - compared with others.

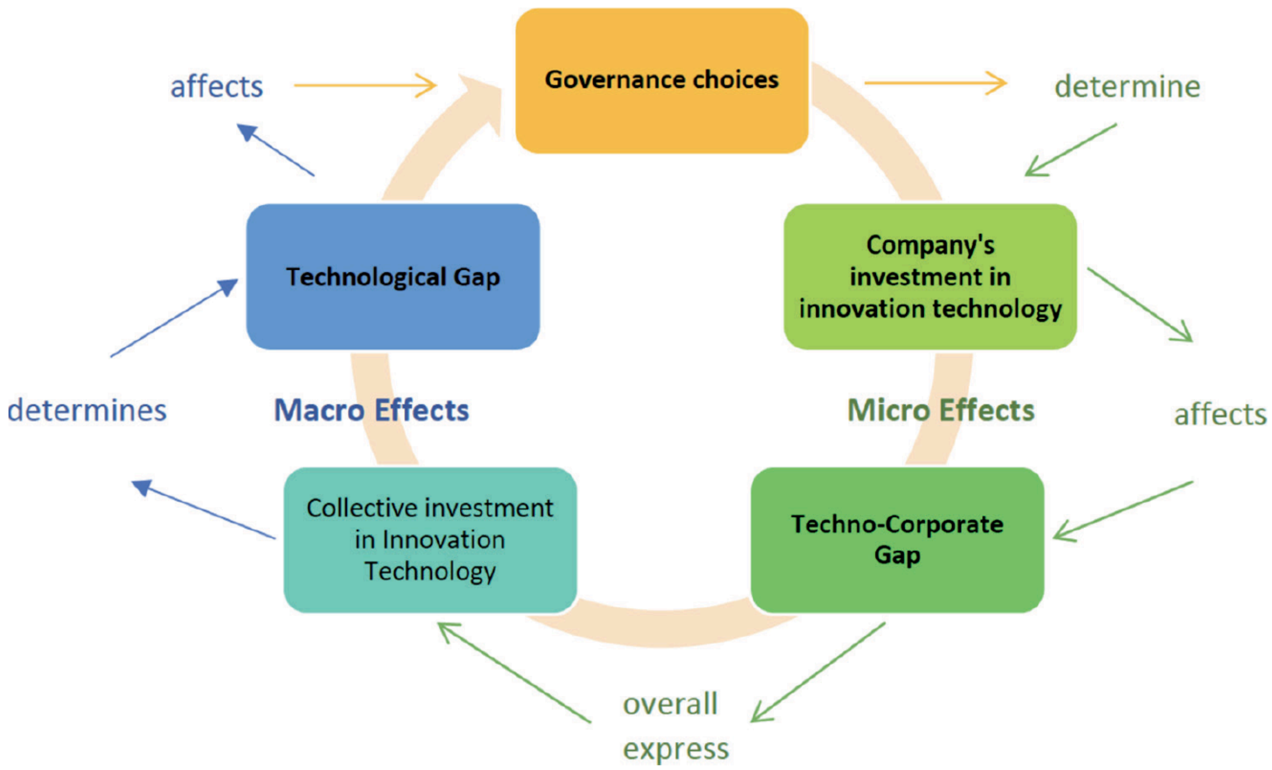

Fig. 5 – Micro and macro effects in terms of investment in innovation technology
(Source: author's elaboration)

It is represented here how the propensity to innovate, stimulated by the different governance structures of a firm (micro effect), can express a general innovation potential when considered in its complexity. Collective investment in innovation has macro effects in terms of increasing or reducing the technological gap between countries and others. Let us consider first of all that every company can achieve innovation according to the type of investment made or strategies adopted.

Therefore, thanks to the numerous levers (Rangone, 2020), the top management can consider to open the capital to new partners or follow new partnerships achieving a specific development strategy, and consequently, top managers can take decisions that spur the company to achieve specific objectives in the technological field. The governance structure that characterizes companies in a specific geographical area can therefore be a winner or a critical factor. We must not forget that a territory can be considered developed if the companies and bodies operating within it are efficient and not simply because of the ability of a single company - however large - to produce efficiently. The result is that the ability to open up to innovation of every single company in a specific territory, together with similar micro behaviors, will influence and compose the collective behavior in terms of technological development; the latter factor will be the source of macro effects that translate into a technological gap with neighboring areas, regions, and, as a consequence, competing countries, if we look at the process in macro terms. The core of the problem then lies at the heart of the company and must be analyzed there.

3.2 – *Sectors, firms' status and technological upgrading*

In identifying a strategy that can enable businesses to recover optimally from an economic and financial point of view after the pandemic spread or however to fight the *techno-corporate gap*, it should first be pointed out that not all sectors have been adversely affected by the crisis. The sectors least affected or even benefiting from this situation are those related to the satisfaction of basic needs, such as food, but also those that have a close connection with digital activity. We are therefore talking about online service platforms, online marketplaces and the delivery sector (related to online orders). On the contrary, most of the sectors that do not fall into these macro-areas have suffered heavy setbacks. Restrictions on travel and fears of an increase in contagions have imposed a real freeze on the tourist industry.

The fashion industry has received backlash as it is not an expression of basic needs. The restaurant industry suffered the full impact of the lockdown by keeping their businesses closed for several months; moreover, when they reopened, the businesses had to make some important choices:

a) primarily incurred expenses in retrofitting their facilities in light of government-mandated health criteria;

b) secondly, they had to choose between different levers aimed at recovering immediate losses or dealing with impending difficulties:

- reduce staff;
- give up a portion of the profits;
- raise prices;
- increase table rotation.

All this considered, it is our belief that these short-term strategic solutions are certainly a *modus operandi* aimed at sustaining the business in a short period of time, but they are not a solution that can really help businesses affected by the pandemic to break the deadlock.

Today, more than ever, firms need recovery strategies that are the expression of a medium-long term vision and that are aimed at helping companies regain a specific position in the evolutionary context we are experiencing. Sudden difficulties have led companies to shelve long-term projects, therefore, to suspend the expansion and value projects that produce the true profit margin. Today, firms aim to carry out short-term interventions, perhaps pending public subsidies and aimed at reducing costs as much as possible and obtaining flexibility.

The opportunity is actually great to definitely understand the company status. Paradoxically, if the repercussions of the crisis have been

slight = previous good company status > use of strategic levers in the short term

acute = previous weak corporate status > use of m/l-term strategic levers

In the latter case, it is certainly appropriate to use levers that provide immediate economic and financial relief, but a thorough analysis of the status of the company is urgently needed to allow radical changes in the company in order to offer a new and attractive product or service. This can be done by making estimates as soon as possible that define:

- changes in the company's market positioning (trends by year and economic and financial variances);
- the margins resulting from the adoption of a new business model depending on the different scenarios;
- the costs of investments in new company assets and innovative know-how;
- the timing of the change and the company's ability to sustain such pace considering current operational needs.

It is therefore possible to conclude these reflections by stressing that there is no common line or common strategy. There is only the solution that can be identified by the individual company in light of the backlash received during the pandemic and the company's awareness of its status and positioning on the market. However, it is our conviction that there is a common need to pursue smart innovation processes, dictated by a constantly evolving economic and social context. In the light of these forecasts, let us see which specific innovation-related strategic lines can be pursued and in the light of which specific criteria they can best be implemented.

3.3 – *Strategic lines and operating criteria*

The experiences of the last 2 years since the pandemic spread of Covid-19 have taught a key lesson: businesses will never return to their former reality. Profound changes have been imposed both internally and externally on businesses. There is therefore a totally new dimension that requires new approaches to business and, therefore, new models.

The companies that over the years have been able to ride the technological wave, anticipating the dramatic moment we live today, are certainly prepared for the ongoing evolution and to meet the needs of customers by offering innovative services and products. In the short to medium term, these companies will always be able to acquire new market shares.

In the presence of new rules, new needs, and new forms of customer relations, it is our belief that companies must set their recovery strategy along the following lines (Figure 6).

4 – Preliminary actions to reduce the techno-corporate gap

4.1 – *Study the new trends and tastes of the digital consumer*

Understanding business after the Covid-19 pandemic means observing the mutations that have characterized consumption trends in the Business-to-Consumer and Business-to-Business spheres and understanding which path the national but above all the global market is taking.

In the digital age, it is not possible to focus only on national trends. Global trends inevitably affect national trends, perhaps not in the immediate term but certainly in the medium to long term. The vision of the entrepreneur must therefore be attentive to what is evolving at international level, always drawing new ideas not only to stay in step with the times but also to anticipate the potential repercussions of foreign competition.

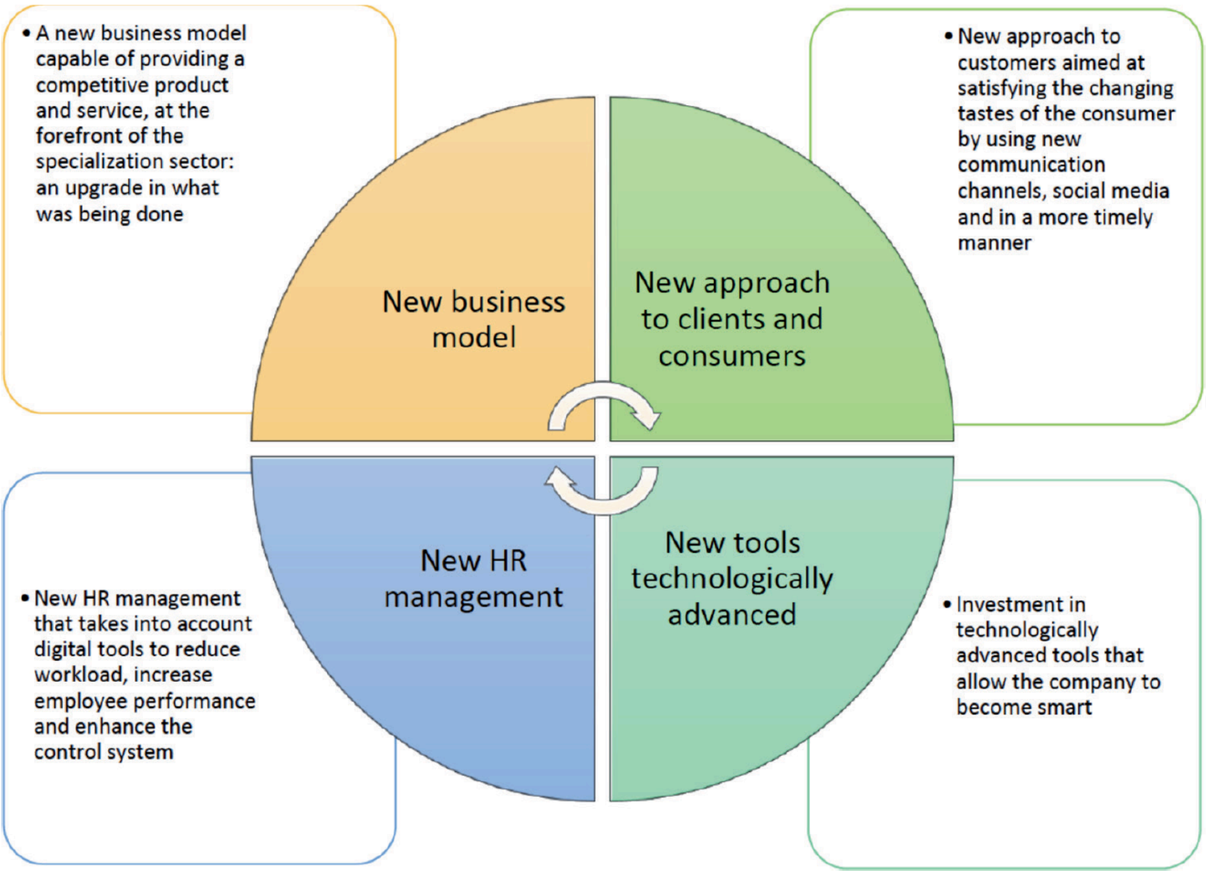

Fig. 6 – Elements of intervention for the implementation of a recovery strategy
(Source: author's elaboration)

In a post-pandemic period, it is worth considering that not all consumer groups have been affected. Like companies, which as we have observed above can be distinguished between positively and negatively influenced, the consumer market also responds with its own particularities. Employees working in positively influenced business sectors are certainly able to maintain a consumption trend equal to the pre-pandemic period. Lockdowns and restrictions on transport and communications, as well as on leisure, initially saved resources that can now be put back into the economic circuit. Not to mention that the weakness of the markets is also a lure for investors and speculators interested in setting up new businesses. All of this is obviously part of an evolutionary context defined by new digital approaches.

The transformation of the consumer goes hand in hand with the transformation of companies. Therefore, since the consumers will spend more and more time online and will direct their consumption interests more to products on the web, companies must be able to identify the digital tools available today to understand the new paradigms of consumption, the trends that draw the attention of customers, but above all they must be ready to define solutions that can build "consumer loyalty" (Cachero-Martinez and Vazquez-Casielles, 2021).

4.2 – *Set up an upgrade or transformation of the business model*

Digital innovation must become an imperative for any business. The business needs to follow innovative protocols, looking to achieve an upgrade (if the impact of the pandemic has been limited) or a full transformation if the conditioning has been larger. We are not talking here about diversification (Xie *et al.*, 2021), which often arises from a prospect of enlargement, but of evolution aimed at redevelopment.

In order to make an accurate assessment of the need for such a measure, it is essential to carry out different analyses.

Since the present work aims to investigate the challenges experienced by businesses today, it is possible to summarize some key points:

- calculation of the opportunity and application areas;
- definition of the reallocation of expected profitability;
- monitoring and control of new results.

First of all, it is essential to realize to which specific activity, good, or service has connected the business model to be restructured and which company needs a real digital upgrade. In the case of small and medium-sized enterprises, there are no complex forecasts from an analytical point of view, whereas in the case of larger enterprises, which have several production lines or a diversified business, it is necessary to identify the activities to be examined and which will be the main beneficiaries of the restructuring. At the same time, the risks must be estimated. The previous risks must be compared with the potential risks following the redevelopment in order to verify the feasibility of the project. From this point of view, the feasibility study is primarily the tool that must provide valid alternatives to the managerial class for a more prudent choice of options. Secondly, it is essential to verify the conditions for the reorganization of the entire operation.

The reformulation of internal communication and human resource management - nowadays dedicated to the understanding of new horizons of smart working – are very delicate phases, too often misunderstood by both company leaders and employees (Iannotta *et al.*, 2020; Menshikova *et al.*, 2020).

A third fundamental analysis is then referred to the reallocation of profitability expected following the company reorganization and the reconversion of production and services.

How will corporate value be distributed? What will be the new horizons and prospects promoted by the achievement of corporate value?

These are just some of the fundamental questions that the company must ask itself in order to define the strategic lines aimed at pursuing a correct reformulation of the business model. The answers to these questions come in part from the monitoring and control of the performance achieved, which must take place in a constant manner and always keeping in mind that the evolution today must take place in a "responsible" and "sustainable" key key (Beniulytė *et al.*, 2020; Gazzola *et al.*, 2020).

A few different examples of intervention may be eloquent in this regard (Table 1).

Then, both in the event of a good corporate status and in the event of a compromised economic-financial situation, traditional businesses must approach a conversion of their offering models in a smart and lean way or, at least, combining the traditional with the innovative system (Garzia *et al.*, 2023).

Although outlined in their essential points, these steps and macro-areas of intervention are a valid point of reference for companies wishing to draw up well-considered plans to restructure their business in order to respond to the new challenges of the market, to contain the impact of an increasingly ruthless international competition, and still to regain a relationship with customers and collaborator lacerated by the global pandemic and an incessant evolution in a digital key.

Table 1 – Example of interventions according to firm's status and sectors (Source: author's elaboration)

<table>
<tr><th>SECTOR</th><th>FIRM'S STATUS</th><th>TYPE OF INTERVENTION</th><th>SPECIFICATION</th></tr>
<tr><td rowspan="2">Restaurant</td><td>good; strong</td><td>upgrade</td><td>online order; smart profile; social management</td></tr>
<tr><td>recessionary</td><td>transformation</td><td>delivery;
ghost kitchen</td></tr>
<tr><td rowspan="2">Manufacturing</td><td>good; strong</td><td>upgrade</td><td>e-commerce;
smart company</td></tr>
<tr><td>recessionary</td><td>transformation</td><td>sale on marketplace;
from B2C to B2B;
consulting</td></tr>
</table>

4.3 – *Investing in digital and innovative tools for a firm 4.0*

Investing in digital assets means first of all understanding what digital means, studying its impact on the business model and on the relationship with the customers. Digital technology not only enhances socialization as it amplifies opportunities for relationships, but above all it removes the constraints of space and time. Let us think of a company engaged in agribusiness that has to take care of monitoring the fields, checking the health of the crops. This requires the use of staff, more or less specialized, and time (full days if the company is of medium or large size). If major forces, such as storm events, come into play, these tasks can be made even more complex and sometimes completely obstructed.

The technology that makes the company smart or 4.0 can facilitate this through information systems that make the entire production and control process interconnected with each other (Rangone, 2019).

Traceability throughout the supply chain makes supply processes clearer, providing an additional service of transparency to the consumer in addition to a quality product on time.

We've been talking about digital and the smart company for several years now, yet the number of businesses benefiting from such systems is really limited. We believe that this is an opportunity to accelerate those renewal projects that had already been planned and that today join, indeed strengthen, the strategic solutions to combat the emergency.

It's time for businesses to become visible, join the network, and benefit from a renewed digital image. But in order to do this, a major investment in 4.0 tools is needed. Investing in digital assets means having a previously described upgrade or transformation plan well in mind. Now is the time to verify the applicability of new technologies in the company and design innovation processes, thus reducing the *techno-corporate gap* that limits the expansion potential of the company.

In fact, smart innovation makes it possible to achieve a quality product, making the most of the resources available to the company (thus reducing costs for raw materials, capital goods, and HR) in a working environment that is not only safer but also leaner (Figure 7).

And in a post-pandemic context what better opportunity could there be to provide the consumer with that peace of mind when consulting and purchasing. In a time of health uncertainty, there is no greater impact factor than transparency that provides peace of mind by increasing trust. And this trust can be ensured thanks to 4.0 tools along the entire supply chain, during the production phase, the service provision phase, up to the moment of purchase by the consumer.

Giving peace of mind and security to the consumer is in itself a qualifying factor that helps businesses stand out in the market environment to win the competition.

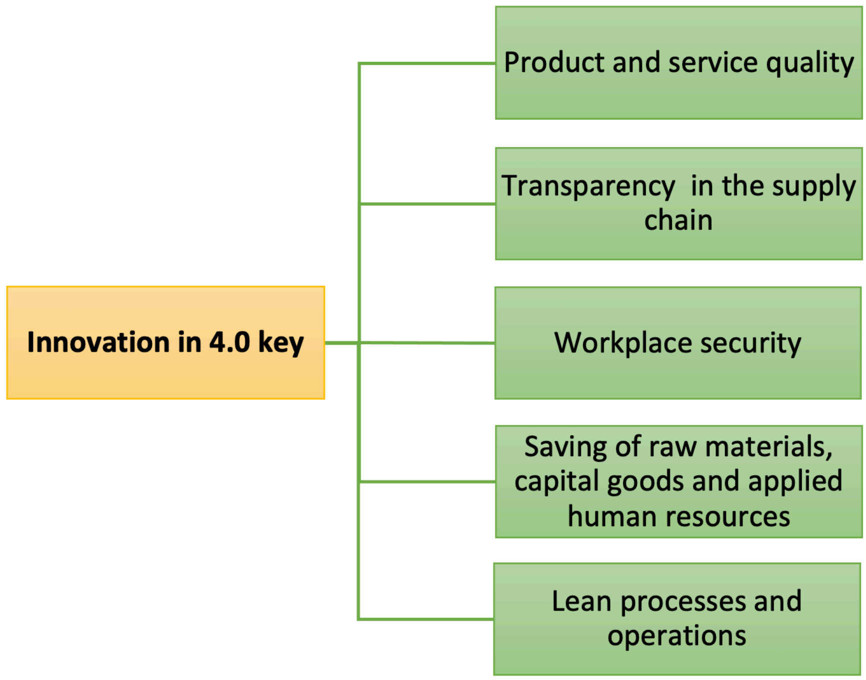

Fig. 7 – Strengths of an investment in 4.0 technology (Source: author's elaboration)

4.4 – *Raise or fold? How to relaunch the firm*

Once the criteria and key elements for understanding the context of a corporate relaunch aimed at facing the countless challenges that everyday life brings have been analysed, this work will conclude with some singular but far from trivial reflections. It is really interesting to share many common aspects between business strategies and strategies adopted in the game of Poker that can help us to understand the forma mentis adopted by an entrepreneur - or a board of directors - in certain situations.

In business life companies face a probabilistic challenge to the success of their initiative or investment, whether initial or mid-course. It is true that in the corporate world there are countless systems for risk forecasting, but it is always good to remember that "*firm is created by man to work among men*". Therefore, there are no exact formulas for predicting the future but mathematical conjectures as close to the truth as possible that must be confronted with the human psyche, with the changing moods of man (tastes and tendencies), and with the many unforeseen events such as natural disasters, pandemics, collapses of governments, and so on.

Those who are familiar with the "poker" card game will not miss the choice of "raise," which defines an aggressive, proactive playing strategy clearly in opposition to "fold." In fact, the fold solution determines a choice aimed at buffering, thus limiting potential damage or losses. The player knows he does not have any winning cards and, intimidated by the probabilistic weight, throws his cards on the table, thus giving up the pot and proceeding with the next pot.

But how long can such a policy continue? The fold solution is then associated with and compared with cases in which companies - in order to cope with impending difficulties - choose:

- the downsizing strategy;
- the sale of business branches;
- the disposal of assets.

If left unchecked, these strategies can lead to a worrying corporate weakening. This point of view is inherent not only in economic and financial principles but also in social and environmental ones. Living in an economic and social context in which reputation plays an increasingly relevant role (Rangone, 2023[a]; Rangone, 2023[b]), a company that adopts fold tactics demonstrates loss of control, weak governance, thus demonstrates an image that is likely to heavily intimidate investors, sponsors, and stakeholders.

On the contrary, a "raise" strategy demonstrates confidence in what company does, but also it demonstrates business strength and robustness even in those cases (such as the current post-pandemic one) where business status has been heavily weakened, but it is appropriate not to demonstrate it (bluff technique). The raise strategy includes solutions such as:

- turnaround,
- leverage,
- investment in new assets or initiatives,
- mergers,
- joint venture.

This technique scares competitors, reducing the likelihood of takeovers, implicitly increasing the potential investors and sponsors. Stakeholders are also induced to work better or to continue the collaboration with a proactive and relaunching company rather than with a submissive company that focuses on downsizing.

Human resources, especially those who can make a significant contribution to business progress, are qualified to work in a company that aims for growth and relaunch rather than *fold* solutions.

With all this, it is not emphasized that cost containment strategies or the sale of unused or obsolete assets are to be avoided. It is here expressed a connection between the raise strategies that can support companies (instead of intimidating them) to the principle of transformation or upgrade 4.0.

This work, in fact, doesn't advise the company to constantly live in bluff, deceiving the customer or the entire category of stakeholders. It is emphasized that the strategies must consider the potential repercussions that a *fold* policy can entail, especially in certain situations such as the current ones.

Innovation 4.0 can therefore constitute a real proof that allows the company to experience a dramatic post-pandemic and constantly evolving reality. Given the requirements of this work, there will be certainly the opportunity to further deepen these affinities between the corporate strategy and the "*strategy poker*" in subsequent works.

5 – Conclusions

The experiences that companies are having today show that the emerging challenges due to the pandemic spread of Covid-19 converge extraordinarily with an evolutionary path already started and due to the so-called 4.0 revolution.

The prospects for businesses are manifold and are determined by the economic and financial status with which companies have had to face the pandemic. This work wanted to emphasize the fact that, contrary to what one might think, the time has come for companies that have received the greatest repercussions to take a bold step. The time has come to relaunch the business with decisive investments aimed at giving the company a new face and, above all, reducing what we introduced as *techno-corporate gap* (Section 3).

Today exists a substantial literature aimed at demonstrating the multiple positive effects for companies that adopt technologically advanced systems. This is certainly a point of reference to try to understand the potential solutions and, therefore, in support of the thesis set out in this work. The new company profile must have 4.0 traits and must allow the company to offer innovative, fast, and competitive services using the technology available on the market today. This is further demonstrated by the fact that, unlike the most affected companies, those that have not received particular setbacks have been able to benefit from already innovative business models or are part of already digital sectors.

The time has come for "traditional companies" to take the next step, what we have considered a technological upgrade, while those that have remained completely away from technological innovation criteria should carry out a real transformation of the business model.

Decisions in this sense must come from corporate governance, the only real driving force for achieving innovation and aimed at reducing the so-called *techno-corporate gap* with respect to competing companies. Besides through the description of the relationship between the *techno-corporate gap* and the technological gap, this strategic solution has been also analyzed through the description of what we have called "strategy poker." With this principle we have defined a clear will to relaunch the company through proactive solutions that influence the image stakeholders have of the company and aimed at acquiring new assets in a digital key.

Obviously, this being the first appearance and description of the concept of "*strategy poker*", we leave to the following works a greater study of this theory.

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