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INDIVIDUAL COMPETENCIES FOR THE DIGITAL AGE:

CRAFTING A TRANSFORMATION MODEL FOR JOURNALISTIC COMPETENCIES IN ONLINE NEWS PUBLISHING

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ABSTRACT

This thesis examines the transformation of competencies among individuals confronted to emerging job requirements for digital. It is conducted in contrasted contextual settings from the French press publishing industry: those of advanced digital media firms, as opposed to defensive players and laggards. Doing so, we are bringing empirical micro, individual phenomena under the organizational lens, in an industry facing a massive shift and actively revisiting its business models. Drawing on individual competency theory, we are looking at (1) how the core professional population of journalists within media firms is reshaping its skill set, and (2) what are the factors found to play a role in the transformation at organizational level.

Data is collected from semi-structured, one-on-one interviews with journalists, categorized between senior professionals (having lived the shift from paper to digital publishing) and digital natives. It is obtained in pioneering firms and '*a minima'* digital firms (labeled as such from the existing taxonomy of business models by Benghozi and Lyubareva). Our qualitative methodology thus enables the emergence of distinct sets of individual competencies that appear as either new or reconfigured from the past. The two categories of firms retained at unit level (pioneer organizations and '*a minima'* digital) bring further insight into the configurations that potentially favor or hinder digital transformation.

Results indicate that while a new hierarchy of digital competencies is emerging that stretches the conception of journalistic work, enabling factors in digitally advanced firms influence the intensity of the transformation, rather than the configuration of individual competencies and direction of change. Results are discussed within this frame, in relation to the phenomenographic approach to individual competencies. Consequences on business model innovation are analyzed, on the claim that individuals are instrumental to successful organizational change and that fuzzy, emergent micro-level phenomena require

higher attention in the context of digitization. They are embedded in the selected organizational design applying to the press publishing industry – namely that of a professional bureaucracy – opening the way for further investigation in other contexts. ◊

Keywords: *Individual competencies, organizational competencies business models, digitization, professional bureaucracy, journalism*

SUMMARY

1. EMPIRICAL CLAIM

1.1. SURFING THE DIGITAL TSUNAMI IS NO EASY SPORT FOR INCUMBENT BUSINESSES

The shift of citizens and businesses to digital is now paramount. Since 2005/2006 – when the share of Internet users reached 50 % of the population in Europe and their number exceeded 200 million people in the US[1] – effects of the disruption from digital technologies have sprawled massively in all sectors of the economy. The way people access information and services has changed both dramatically and at an amazing pace. In just four years, from 2013 to 2016, time spent on digital media by Americans has grown by 40% (source: ComScore, '2017 US Cross-Platform Future in Focus'). Time spent on mobile phones with media content has doubled over the same period of time. Looking at press publishing, effects of the move to digital have been devastating to established brands and businesses. In the United States, bankruptcies are even sadly tracked and listed by a website named newspaperdeathwatch.com since 2007. Newspaperdeathwatch.com displays a R.I.P. section for stopped paper publications, and another one ironically labeled W.I.P. – for Work In Progress.

While the media landscape offers an obvious illustration of the changes at play, countless sectors are hit by a massive transformation, from hospitality to distribution. Beyond the illustration from information publishing is an issue for all industries confronted to change. A study by Forrester Research and Odgers Berndtson from 2015 finds 47% of revenue will be influenced by digital in 2020, according to executives across a wide range of industries. Among the outcomes, professional and business services are now facing thorough transformation, and industry is catching up. There is a digital majority moment to come, the survey suggests, and this moment is coming close.

1: Sources: World Bank, International Telecommunication Union, 2016

Many firms may appear as unprepared, yet they are actively reconsidering their strategies and changing their business models, multiplying efforts to adapt their offers to the new potential from technology. They are engaging into change under tremendous pressure: in established industries, new entrants are revisiting old sector definitions and changing the competition game. AirBnB, Deezer or Google have successfully redefined business rules in hospitality, music and information procurement respectively, pushing incumbents to rethink and attemptedly modify their strategic capabilities. But as Moreau has shown in the case of the music industry (Moreau, 2013), some of the traditional players are trying to protect their legacy and lower the pace of adoption for new potentialities. And as illustrated in the news every week, failures to reconsider and transform strategic capabilities are numerous. Emblematic cases have been documented through research in sectors like digital imaging and information processing (Tripsas and Gavetti, 2000; Danneels, 2011).

1.2. COMPETENCIES IN DIGITAL BUSINESS MODELS: AN UNDERESTIMATED COMPONENT OF FRAMEWORKS IN EMPIRICAL SETTINGS

Incumbents commonly engage into innovative business models through intense conceptual phases. Strategic thinking generally heavily relies on the exec team – sometimes supported by consulting firms – applying a top down approach of change and attemptedly formulating responses to the disruption brought by new entrants. As a result, conceptualizing new business models (BMs) is a major strategic activity and is thoroughly documented in research and managerial literature. But the questions around BM implementation are often overlooked by firms in this process. Issues around execution do not draw enough attention from the top management. As will be illustrated in more depth in the following sections of this thesis, this is a pitfall to business model innovation (BMI). BMI has consistently refined models to make them more operational and actionable – this comes as an aim of BM frameworks, in search of pragmatic outcomes. Contributions in research have brought new concrete elements from the underlying organization and environment under light, and this should inspire firms in need for digital success. As an example of this movement in research,

most recent developments include a vision of the role of artifacts in the crafting of BMI (Demil and Lecocq, 2015). Looking at how an existing company in the sector of kitchen electric appliances is operating a shift in its business model, the authors are specifically drawing on emerging socio-material arrangements. They are insisting on the fresh approach this firm is adopting along its 'old' activities (service view instead of product view, open innovation replacing the segmented process, etc.), calling on user-network theory and the mediating role of individuals within the company. Yet in most cases conceptualizing and crafting phases do not draw equal interest from firms, and this comes as a hurdle in successful business planning. Also, empirical evidence along models is still scarce, which adds to the problem. Adopting such view over execution we want to highlight the importance of the competency component in the shift to digital. It is clear that new competency acquisition and development are strongly needed, both at organizational level and among individuals at the heart of value creation. But as a result of the above, and looking at what organizations actually do when implementing digital change, we are coming across significant gaps between strategic intentions and the reality of execution. While setting the initial milestones for this thesis, we have been observing the roll-out of a 'bi-media' organization in a major regional French daily newspaper in 2011 and 2012[2], as part of the planned shift towards a digital pay wall business model. Outcomes of this preliminary case study are depicted in appendix. Results suggest that as change is being implemented, managerial focus lies in aligning internal processes with technology requirements, whereas leveraging core competencies to new business needs is taken as an ex post requirement, not a prerequisite to success. The knowledge and skills of journalists asked to produce multiple format content (videos, photos, posts) for multiple channel delivery, with respect to the usage of mobile phones and the understanding of new workflow requirements, is seldom covered in the roll-out plan.

Similar patterns are commonly observed in all sectors in real life conditions. Although HR directors have been assigned a role to foster new talent acquisition

[2] The case of *Sud Ouest*, one of the top selling regional dailies in France, has been studied at the time local news agencies were asked to implement new workflows of news production based on the use of mobile phones, serving both print and online editions.

and development, individual competencies for digital are either not fully integrated on the exec team's roadmap, or they are suffering from insufficient identification and slow implementation. In other words: if digital is setting the pace for fast business turnaround, transforming the competencies of the organization takes much more time. At Pearson (the world's leading Education Company with 40,000 employees in 70 countries and sales of £ 4.6 billion), the global digital strategy has led to the creation of several innovation governance committees in order to sift non viable projects from valuable ones in a strict and carefully designed process. Projects are following a strict methodology based on product lifecycles and the use of the strategic canvas by Osterwalder and Pigneur (2010). Global technology has been transformed into a shared enabling function to leverage cross-BU and cross-country investment. The shift to digital business models has clearly been driven by a technology and process view in the last years – but new competency definition and integration is bound to the pre-existing resources, the identification of the needs and of the most agile employees, the adoption of an ambitious training program, etc. While fairly natural to any incumbent business, creating the appropriate skills from the heart of the organization belongs to a distinct temporality.

As a consequence from what we have described, existing firms are failing to onboard their organizations into the shift. They are hindering the potential reconfiguration of core competencies along with the anchoring of well differentiated, sustainable business models. Vast amounts of energy and money are being wasted in all sectors of the economy. New entrants are the biggest winners, while some historic market leaders have been ruled out in a spectacular way. Players like Amazon or Trip Advisor have successfully reconfigured the specific set of core competencies originally appearing as a fixed determinant in their respective sectors. In their paper from 2011, Scott and Orlikowski demonstrate how the disruption introduced by TripAdvisor in the hospitality sector reconfigures relations of accountability around new sociomaterial arrangements. Results suggest that the creation and detaining of the algorithm generating hotel rankings, along with powerful communication and partnering tools that lead hoteliers to enforce new system rules themselves belong to the core competencies at TripAdvisor. These competencies suddenly make the ones from existing institutions obsolete.

In sectors where digital is at the heart of value creation, the need for core competency integration into new business models hence appears as particularly critical. News publishing again provides additional illustration and figures. Looking at the evolution of the sector, WAN-IFRA (World Association of News Publishers) outlines that the share of advertising in the industry's revenue, once way ahead of circulation, is now topped by revenue from content – as a consequence from rapid digitization. The shift was observed in 2014 for the first time, with revenue from advertising evaluated at $ 87 billion at world level and revenue from circulation at $ 92 billion (source: WPT). In 2016, WAN-IFRA reports, digital newspaper and news media readership is found to grow further, and in some of the most developed economies, readership on all digital platforms has surpassed the number of readers in print.

Not only are preexisting business models modified in the case of newspaper publishing. Technology disruption is also reconfiguring competency requirements, with new paradoxes to manage. Online ads, for instance, are on a quick rise (from $ 5.9 to $ 9.4 billion between 2010 and 2014), with digital programmatic advertising now counting for 20% of all online advertising for world newspapers, (59% in the United Kingdom, 56% in France and 45% in the US). So that just as challenging as the evolving revenue balance are the organizational competencies needed to perform new activities. How to monetize digital audience? How to enable programmatic display advertising? How to offset the downtrend in print over a quick period of time? These are some of the questions publishers have to answer, in order to implement emerging business models successfully. In management terms, the problem lies in operationalizing the change in competencies: identifying them, understanding the enabling configurations and reassembling elements to perform key digital activities.

1.3. INFORMING THE INDIVIDUAL LEVEL AT THE SOURCE OF TRANSFORMATION

While individuals are the real activators of change, we have found firms to focus on a broad range of key strategic areas and neglect the importance of proper competency redefinition for digital adoption. Our empirical claim clearly derives from what we have been observing in firms confronted to change requirements: we are calling for higher consideration of micro-level phenomena as a success factor. Such need is even more critical in an emerging field. Individuals are asked to adjust to new socio-material arrangements for job completion. So there is a need to look in more depth at what they actually do to adapt their skills and achieve what they are asked to. Taking competencies as capabilities a firm needs to nurture for higher performance and competitive advantage (see theoretical section below), we want to consider individual level competencies as the source of transformation and a key component of strategic change. In this sense, we are looking at the micro-foundations of routines and capabilities, drawing from the individual level to inform the firm's level. Abel, Felin and Foss are providing a useful frame to support such claim in their 2008 paper. From a theoretical standpoint, Felin and Foss (2005) argue that strategic organization literature focuses of capabilities collectivism and tends to neglect the individual level view. They insist that 'the organizational capabilities approach asserts that performance differences between firms are driven by efficiency differences that may somehow be ascribed to collective constructs, such as routines, capabilities, competencies and the like.' A major limitation to this approach lies in the underlying assumptions of individual homogeneity and malleability – which contradict both empirical evidence and cognitive science on human learning and development abilities. This leads Felin and Foss to point on the deficiencies of capabilities collectivism, and the weaknesses of multilevel theory in addressing the limitations above. Attempting to solve this problem, the authors are proposing an alternative view to describe and inform individual-organization relationships. Their approach takes antecedents into consideration at collective level (past routines and social facts as factors explaining present and future routines and social facts). It also brings a new emphasis on the questions of 'what?' and 'who?' at individual level (what are the assumptions about the

individual nature, choices and motivations for work, and who carries out intended work). Arguably the approach addresses the question of heterogeneity in routine performance, tracing it back to individuals –therefore asserting the importance of the individual level as the one where related phenomena originate. With respect to our empirical claim our attention is specifically put in the reconfiguration of capabilities generated by the transformation context we are observing. More precisely, we are making ours the critique of routines and capabilities by Felin and Foss in their 2009 paper[3]: While organizational routines and capabilities have become key constructs in management, there has been a theoretical drift over time. Recent routines-based work has moved the focus from the individual to the collective level, from intentional behavior to unintentional behavior, and from the observable to the non-observable dimension. The authors are advocating for renewed emphasis on the origins of routines, intentionality and exceptions, and aggregation and emergence.

To label it differently: if a firm's adaptation potential is bound to the transformation of its strategic capabilities, change is firstly operated by people. And people are facing job requirements with the knowledge and skills they have acquired through professional education and experience. They are also performing work with a personal representation of their competencies and role that has been built over time. In the preliminary case highlighted above, journalists out in the field had to deconstruct and rebuild their job with a new roadmap in hand. But they were left unprepared to achieve new tasks using new technological devices (smart phones, new content management systems), on the premises that 'everybody knows how to use a smart phone' (see detailed case study in appendix). Not only do some advanced smart phone functionalities require proper training. Even more significant is the lack of attention put in the adoption process by supporting functions. As a result, 'this is no journalism' is a quote that came from several interviewees at Sud Ouest, suggesting that digitization may be hindered on its way by individual level factors.

[3] Felin T. and Foss N.J. (2009): 'Organizational routines and capabilities: Historical drift and a course-correction toward microfoundations', *Scandinavian Journal of Management*, 25, 157-167

1.4. A NEED TO LINK INDIVIDUAL COMPETENCIES AND ORGANIZATIONAL ONES FOR SUCCESSFUL BMI

Synthesizing the elements above, we are calling on the need for stronger links between individual competencies and organizational ones at the time firms are implementing new business models. Our claim is that there is potential for higher success in BMI from improved links between the different bricks at play. In empirical settings, we find people often left alone with competency change requirements, simply because management is too busy with the rest (conceptualizing models, choosing the right tools). Down the road to digital, we also find organizations missing some important guidelines when it comes to competencies, because implementation is poorly informed in the literature. This is somewhat of a paradox: competencies are acknowledged as a key component in BMI, but operationalizing the concepts is suffering from a lack of attention. Taking this perspective over digitization, this thesis has an objective to study the evolution of competencies by bringing individual level outcomes into an organizational perspective. Doing so, it has an aim to better understand the digital transformation at play and the factors for higher performance in digital BMs. From this empirical claim and approach, this thesis will:

- Highlight the gaps in research that prevent firms from according sufficient attention to individual competencies in empirical conditions,

- Provide a relevant theoretical perspective over individual competencies, that enables the observation of emerging phenomena,

- Use BMI as a frame for analyzing results, with a view to link individual outcomes with digital transformation success,

- Choose a research design and field able to provide significant results with respect to digital disruption,

- Describe the methodology and results, with an aim to propose an empirical model for individual competency transformation,

- Analyze the factors potentially favoring or hindering individual competency transformation,

- Discuss results and theoretical additions, with respect to the research field and the related problems: additions to individual competencies in a transformation context, implications for HR policies, additions to contemporary research on BMs and potential development with respect to the XXIst century sociology of journalism.

- Suggest routes for further research.

From a more personal standpoint, the motivation for this research is drawing on a long experience as a practitioner. I have been involved into digital business model implementation since 1998/ 1999 – constantly engaging teams within the publishing industry into a blurred but promising future. Prophecies sometimes proved (partly) self-fulfilling. Most of the time, they didn't. People and firms certainly have a wonderful ability to learn and change … providing we are not sloppy with a few things on our way, though. While we have been spending hours and huge consulting fees on strategic thinking in these years, and under the urge for change, we have often neglected to take the competency dimension into the picture. One of the reasons is that we barely had an idea of the competencies we needed, and how to effectively push them as a competitive advantage.

As an engaged scholar, I am making use of field access to help lower the competency gap in the disruption period we are living. This research aims at conciliating individuals' and firms' common need for successful digital change, by informing efficient configurations of competencies in the breakthrough. Doing so, it has a view to bridge a pervasive gap in research that has to do with levels of analyses.

This research is also looking at change as it happens. It is potentially bringing to the table the practicality the actors are missing while they are engaging into change and looking for directions. Practicality is about simple questions: Which competencies work for digital? Which competencies are serving our strategy?

How can we assemble them and make them distinctive against competition? Conducting research over digital competencies, we intend to bring some answers into light.

2. THE RESEARCH PROBLEM

2.1. RECENT BUSINESS MODELS FROM SCHOLARS HAVE INTEGRATED CORE COMPETENCIES INTO FRAMEWORKS AS A KEY COMPONENT IN THE DIGITAL SHIFT. BUT OUTCOMES ARE WIDELY UNDERUSED.

Digitization has opened the way to multidirectional business model (BM) experimentation from organizations. It is also triggering intense research activity and production on BMs in the academic world (as quantified by Wirtz et al., 2015).

Looking at contributions from research, digitization has been the source of a conceptual shift over time from static to dynamic BM frameworks (Brandenburger and Nalebuff, 1995; Dyer and Singh, 1998; Varian, 1999; Amit and Zott 2001; D'Aveni, 1994 and 2010; Plé, Lecocq and Angot, 2010; Demil and Lecocq 2010). The digital breakthrough has made dynamic interactions more critical in the models suggested by scholars, with an underlying view that resources and competencies, as derived from Barney (Wernerfelt, 1984; Barney, 1989), should be leveraged to create new and effective value propositions, but also internal processes for producing these value propositions. The RCOV model by Demil and Lecocq (2010), initially known as the RCOA model, provides an example. RCOV divides resources and competencies into categories and identifies distinctive skills and competencies required to achieve higher performance at collective level. It simultaneously suggests identifying the value configuration for strategic activity domains and describing the tasks and components utilized, both internally and externally, with a process view. It is fair to state that research has increasingly asserted the criticality of core competencies along with a firm's dynamic capabilities in business models in the last fifteen years, as business was moving digital. Yet as reflected in our

introduction, firms consistently focus on strategic activities and technology, while neglecting competencies.

From this initial perspective and taking an organizational view, the research problem appears as a knowledge-transfer one, with vast economic consequences in times of disruption, when the Schumpeterian view of creative destruction appears more vivid than ever. When it comes to core competencies, outcomes of research on BMs are just not translated by decision makers in empirical settings.

2.2. INDIVIDUAL COMPETENCIES: A DISTINCT THEORETICAL FIELD WITH FEW BRIDGES TO ORGANIZATIONAL LEVEL AND COMPETITIVE ADVANTAGE

At individual level, there is a wide array of literature taking a 'human resources' entry point into the question (Bergenhenegouwen, 1990; Drucker, 1992; Godbout, 1998 and 2000; Spencer & Spencer, 1993). The dominant approach to competencies at this level draws upon rationalistic streams, mainly consisting of job analysis research (Armstrong, 1991; Cascio 1995; Ferris, Rowland & Buckley, 1990; Gael, 1988). Although it subdivides into different categories, it is generally taking competency as an attribute-based phenomenon. Such deterministic view tends to limit the impact of the contextual factors, which are precisely stretching and influencing known patterns in technologically disrupted times.

Opposite to this is an interpretative stance to individual competencies, initially developed by Schultz (1945 and 1953), Berger and Luckmann (1966), then further elaborated by Giddens (1984, 1993). This route is exploring the lived experience of work (Dall'Alba & Sandberg, 1996; Sandberg, 1994), as a result of the broader lived experience of the world (Berger & Luckmann, 1966; Husserl, 1970; Schultz, 1945, 1953). It carries an integrative view: competency as constituted by the meaning of work for the worker, based on a unification of the concepts of knowledge and skills.

Trying to summarize scholarly approaches of individual competencies, they mostly draw on sociology of practice and psychology, informing relation of people to work and potentially structuring the question of fit to organizational needs. However they poorly relate to the questions of distinctiveness in reaching higher performance in the market.

Synthesizing the gaps above, while individual level competency focus is on applied psychology and an HR view of the firm, organizational core competencies are rooted in organization theory, drawing on the resource based view of the firm and adding Prahalad and Hamel's vision on distinctiveness in the fight for competitive advantage. Few researchers have actually created links between individual competencies and organizational ones. Which individual competencies are serving organizational purposes is a scattered knowledge field in itself. Hafeez and Essmail (2007) have suggested an integrated framework to establish relationships between the two. Previous contributions include Lawler's vision of the competency-based organization, as opposed to the job-based organization (1994), and also Lahti's usage of OLCCs (Organizational Level Core Competencies, 1999). However the intensity and criticality brought into the issue by digitalization poorly reflects in recent academic research.

Karimi and Walter have contributed to establishing the role of dynamic capabilities in digital disruption, by studying the specific setting of the newspaper industry through factor-based quantitative research in a recent paper (2015). They have established that 'the higher a newspaper company's ability to collectively reconfigure its resource base by changing, adapting, or extending its existing RPV, the higher its response performance will be to digital disruption.' RPV should be understood as the resources of an incumbent (what it has), together with its processes (how it works), and values (what it wants to do). RPV determine the ability to develop new innovative products in response to radical innovation – following the disruptive innovation theory. As such, RPV form determinants of first-order dynamic capabilities that are found to sustain second order capabilities (in the case at hand, digital platforms capabilities) and finally influence response performance. Ability to grow a portfolio of digital products is more directly impacted by second order capabilities (platform capabilities), the authors find. But the share of online revenue is more directly impacted by first

order capabilities. These are valuable insights into the issue of capabilities in our context. However we think a significant contribution to the problem depicted above can be expected by adding a vision of competencies to resources, processes and values, and more specifically by identifying enabling configurations of competencies.

Such approach ultimately requires cross-level analysis between individuals and organizations. As pointed by Burton Jones and Gallivan in the case of IS usage in organizations (2007): 'Studying organizations one level at a time ultimately leads to an unnatural, incomplete and very disjointed view of how information systems are used in practice' (MIS Quarterly Vol. 31 No. 4, p. 657) We regard this as relevant to the problem we are addressing, and even as being part of the problem. Escaping the individual component in emerging business models may explain some of the pitfalls companies are facing. Creating an integrative, dynamic, cross-level view may alternatively fuel efficacy through implementation. Multilevel research, referring to any research 'that entails more than one level of conceptualization and analysis' (Kozlowski and Klein, 2000), is a potentially promising answer to the problem described above: what we are looking at is change enacted by people, and how it can better translate into results for organizations. Only by adopting such integrative stance can we lower the risk of 'core capabilities becoming core rigidities' (Leonard-Barton, 1992). However while we think multilevel research is particularly relevant to the problem of competencies in disrupted times, we want to focus on the individual level first, as the unit of analysis that tends to fall under the radar. From our research problem, our stance is to bring undervalued outcomes from the individual level under organizational scrutiny. As a consequence, this research is bounded to the observation of individuals, with an aim to make micro-level phenomena insightful at firm level. Another reason for focusing on the individual level first is that it allows a stepped approach of the broader problem, with potential further steps at organizational level. It therefore appears as a natural way to draw a line from micro-observations to broader implications for firms going digital.

2.3. A NEED FOR MORE CONTRIBUTIONS AT MICRO, INDIVIDUAL LEVEL

Circumscribing the research problem, we have reflected on competencies as being captured in recent dynamic BM frameworks, however lacking attention from management teams in charge of implementing digital strategies. We have also come across the disconnection between organizational core competencies and individual competencies. Such gap is a serious hurdle for the onboarding of competencies into digital change strategies through consistent approaches and adequate policies. Tracing back core competency requirements to the individuals at the source of change hence appears as a requisite to better understand competency-related problems and suggest solutions relevant to firms. In addition to the above, there is a crucial need for contributions at individual level in the context of digitization. Looking at recent research, we find scattered scholarly articles on individual competencies for digital with two main foci: (1) Managerial and leadership skills required for higher performance in a digital environment, and (2) Learning and development, with an aim to adapt workforce capabilities to fluctuating production modes. These two axes in academic research tend to relate to talent acquisition with an HR view. However the identification of broader digital workforce competencies that can potentially help digital strategy implementation is weak. It is worth mentioning though that some attention has been paid in the literature to the technology usage of young people, referred to as 'digital natives' (Prensky, 2001). As reflected in AMJ (From the editors: 'The digital workforce and the workplace of the future', *Academy of Management Journal* 2016, vol. 59, N°3, 731-738), 'digital natives' and 'digital immigrants' (adults who have readily adopted technology as it has become available – Prensky, 2001) are shaping the 'digital workforce'. Focusing on the individual, the authors are looking at how digital natives entering the workforce differ in their expectations and work practices, as well as how these differences might influence the future workplace. They are also considering how the competencies developed by digital natives and digital immigrants (together labeled as the 'digital workforce') may benefit their organizations. They are insisting that the digital workforce has developed many competencies while interacting with technology in day-to-day life, and that these competencies can be leveraged at work. An obvious competency lies in their ability to achieve

desired outcomes with technology – it is often referred to as 'digital fluency' (Briggs & Makice, 2012). Interestingly the authors insist that it is experience with technology rather than generational membership that best predicts digital fluency (Bennett, Maton & Kervin, 2008; Oblinger & Oblinger, 2005). However new competencies are not limited to digital fluency. The authors also identify the ability to take risks and learn from one's mistakes as a key competency that is valued in many of today's workplaces (Glen, Suciu & Baughn, 2014). According to Yee (2014), online role-playing games are a major channel to acquire such skills among the younger population, and a precious way to learn cooperation and real-life managerial roles. As the authors point out, gamers are accustomed to learning by trial and error and this technique is essential to design thinking and innovation processes (Brown & Martin, 2015). Looking at today's job requirements, they also note that more organizations are using firm-generated social media content, so that employees able to understand and leverage the power of social media will be valuable (Kumar, Bezawada, Rishika, Janikiramam & Kannan, 2016). From the above, the authors are identifying potential questions for the future of the digital workplace – some of them already affecting organizations and ways of working: firstly, the digital workforce will share the workplace with an older cohort less comfortable with technology, and firms will need to reconcile the conflicts that may arise as these groups collaborate. Secondly, paramount usage of technology is lowering empathy between employees and limiting the scope of interrelations, which tends to eliminate relational skills from problem solving processes. Some organizations are trying to address this last point by reducing their reliance on email and encouraging more face-to-face communication (Burkus, 2016) in an attempt to increase the efficiency of decision making.

As depicted above, some light has been shed on individual competency requirements for the digital age and their broad implications for the future. This stream in research has mostly shaped around the question of technology adoption and how organizations attemptedly change the skills required for employees and leaders. In their 2018 article[4], Schwartmüller, Brosi, Duman and Welpe are synthesizing the competency challenge as follows: 'As technological

[4] 'How does the digital transformation affect organizations? Key themes of change in work design and leadership', *Management Revue*, 29 (2) 2018, 114-138

advances contribute to more knowledge-based organizations (Sinha & Van de Ven, 2005) and especially routine work is automated (Autor et al., 2006), skilled employees are becoming more important (Brynjolfsson & Hitt, 2000). Competencies that seem to matter are problem solving (Parker et al., 2001), creativity (Frenkel, Korczynski, Donoghue & Shine, 1995), efficiently dealing with large amounts of information (Van Knippenberg et al., 2015), social skills (Frey & Osborne, 2017) and fast decision making (Perlow, Okhuysen & Repenning, 2002). For leaders, tolerating ambiguity as well as inspiring followers seem to become more crucial skills in the digital age (Cascio & Montealegre, 2016).

While we value these insights into the individual competency challenge for digital, we are insisting that: (1) the question of competency transformation is poorly informed in empirical settings through the literature, resulting in a lack of practicality, and (2) the link to business model implementation and strategic change is weak. Our research problem may be addressed by further understanding the competency components and individual change dynamics at play in a selected context, where organizations are implementing digital business models.

In this section we have empirically described the research problem and briefly reflected over the literature covering competencies. From these early premises we are inferring:

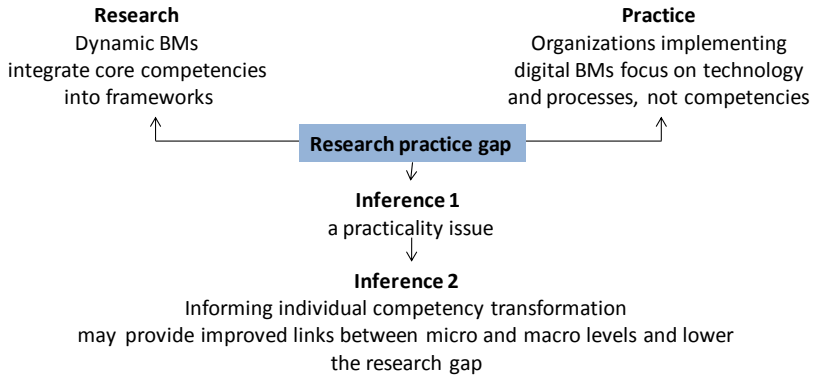
- That the practice/research gap originates from the lack of practicality affecting competencies' identification, integration and configuration phases, hampering business model implementation.

- That the research problem more specifically originates in weak conceptual linkage between individual and organizational core competencies, along with poor evidence of the successful competency configurations that effectively sustain new digital business models.

- That there is a need to inform the individual level at the source of transformation further and bring micro-foundations into light.

From there, we are synthesizing the research problem as follows in diagram 1/ below, on the base on two distinct inferences:

Diagram 1. Synthesizing the research problem



3. THE RESEARCH QUESTION

As summarized above, the research problem roughly describes as a massive research/ practice gap deriving from knowledge transfer difficulties, due to a lack of practicality and a layered approach of competencies.

3.1. THE BROAD QUESTION WE ARE FORMULATING

'In a context of digital BM implementation by firms, how are competencies evolving among individuals confronted to digital job requirements? Are there factors found to favor/ hinder the competency transformation process at organizational level?'

Underlying the formulation is the idea that we can draw lines from the individual to the organizational level, in order to bring practical outcomes to the table for firms engaging into a digital strategy. Secondly, we are looking at change agents and how they operate the shift, with a view over the dynamics and processes at

play. Lastly, and in order to answer the empirical claim and problem, we want to study a designated context with sufficient revealing power.

3.2. TWO RESEARCH QUESTIONS DERIVING FROM THE BROAD QUESTION

3.2.1. Can we identify the competencies people used to mobilize before digital, and the ones they use now?

We want to know how people are effectively operating a change in their skill set to perform new digital activities, and which competencies they are mobilizing. So that as a first step into the broad question, there is a need for competency identification and description, with a temporal view (before/after):

- What are the competencies that mattered most for individual job performance before?

- What are the ones required now?

3.2.2. From there, what is the dynamics and model for competency transformation?

More specifically, we want to inform the transformation of pre-digital era competency needs to digital ones, answering the following subset of questions:

- What is the competency transformation process?

- Are there factors found to favor/hinder individual competency transformation at firm level?

- If so, are there commonalities between digitally successful firms, from a competency standpoint?

The formulation around two *en suite* research questions comes as a natural way of addressing our empirical claim and research problem through research design: this sequence allows a clear focus on individual data collection, then further investigation on the context, linking individuals labeled as the source of competency transformation and firms in need of sustainable competitive advantage. However we want to add that the two questions come in a single sequence, and that we are expecting a fully reflexive process by professionals involved in the digital shift: individuals are embedded in the organizations they work for. As a consequence, they have the ability to reflect over their competencies, but this process is never detached from the broader experience they are living. While necessary from a research perspective in order to code and analyze data, the division of the problem in two distinct questions may not be expressed so clearly in the data collecting phase.

Secondly, and as we are looking at transformation, our questions bring a temporal view into the phenomena. They are designed to inform change, therefore allowing a description of the competencies utilized before the digital shift and of those mobilized now.

The two points highlighted above have an impact on the methodology we are using, in terms of sampling notably. We will cover this in more depth in the methodology section of this thesis.

4. THEORETICAL PERSPECTIVE

From the formulation of the empirical claim and research problem, we are relying on a theoretical flow that takes us from individuals to organizations, and how innovation is operated. This means we intend to highlight valuable outcomes from the individual level in a context where organizations are operating a shift in their business model. Final results and implications will be structured along the question of business model success, and the individual

competency requirements for firms operating strategic change. Following this theoretical path, we intend to:

- Reflect over individual competencies first as our main, broad theoretical field,

- Explain our stance over individual competencies (deriving from our research problem formulation),

- Distinguish individual competencies from organizational ones in order to clarify the constructs and possibly establish further links between the two,

- Call on business model innovation, as the field able to capture and structure results for further operationalization.

Introducing this theoretical sequence, we find it useful to review the different streams in individual competency theory first, how they shaped and evolved over time to provide higher fit to the contemporary workplace; by doing so we want to better explain why we are placing this research into a designated school of thought relevant in our context. This being clarified, we intend to review the core competency literature as a next step. Going from individual level to organizational level competencies, we are therefore establishing a path to capture the collective dimension of our research topic, and eventually analyze competency success factors for digital business model implementation using an extended frame. Another reason for following this flow relates to the critique of the organizational capability approach by Felin and Foss, which we introduced earlier in the empirical claim section and are making ours: need to trace back organizational capabilities to individual competencies, describe and inform individual-organization relationships as accurately as possible.

4.1. INDIVIDUAL COMPETENCY THEORIES: A RATIONALISTIC ANCHORING

As outlined by Sandberg (2000), 'a fundamental managerial problem is to develop human competency at work in a way that enables the organization to remain viable' (*Academy of Management Journal*, 2000, Vol. 43. No.1, p. 9). In this sense, our call for research ultimately refers to the same, persistent question: how can human competency better serve business needs? In a renewed environment and under tremendous pressure from technology, adapting competencies to a changing workplace appears as even more critical. Taking a managerial standpoint, the need for adequate learning and development policies has probably never been so high. However, and taking Sandberg's approach as a starting point: '[…] in order to manage training and development efficiently, managers need to understand *what constitutes human competency at work.* Without such an understanding, competency development cannot be managed effectively and, therefore, effectiveness in organizations cannot be achieved' (Academy of Management Journal 2000, Vol. 43. No.1, p. 9). The need to identify what competency at work is made of is not new. Taylor (1911) was one of the first modern times researcher to suggest improvements in workers' competencies by promoting a scientific, rationalistic approach of work. As an engineer, he noticed significant differences in work efficiency between the most competent and least competent workers, leading to gaps in productivity. Taylor's well-known 'time and motion studies' provided an answer to increased efficiency needs via the elaboration of rules, laws and formulas, with an idea that systematic implementation of these principles by managers would increase workers' competency and ultimately improve productivity. Post-industrial era research has moved focus from time and motion studies to job analysis (Armstrong, 1991; Cascio, 1995; Ferris, Rowland & Buckley, 1990; Gael, 1988). Yet it owes a key tribute to the early XXth century rationalistic school of thought, in the sense that it is dominantly taking competency with a scientific view. As summarized by Sandberg, three different streams in competency-based theory can be distinguished:

- *Worker-oriented approaches*: this stream takes competency as being made of several attributes detained by workers. These attributes are typically constituted of knowledge, skills and abilities (KSAs). Personal

traits required for higher work performance are added to the description (Veres et al., 1990). The approach consists in identifying the relevant attributes (this is usually conducted by interviewing workers and supervisors), categorizing them along KSAs and measuring the correlation between successful work completion and the detaining of the right attributes. As introduced above, while the worker is the entry point into the approach, the outcome does not retain any environment-related or subjective considerations over the worker's situation: it is detached from contextual/ personal influencers, therefore fully belonging to the rationalistic, scientific view of work initiated over the first half of the XXth century. New developments in this approach have led researchers to think of competencies as exclusively work-oriented (Armstrong, 1991; Boyatzis, 1982; Kolb, 1984; McLelland, 1973; Morgan, 1988; Nordhaug, 1993; Woodruffe, 1990). Following this route, a job competency can be seen as 'an underlying characteristic of a person, in that it may be a motive, trait, skill, aspect of one's self-image or social role, or a body of knowledge he or she uses' (Boyatzis R.E., 1982; 'The Competent Manager. A Model for Effective Performance', *Wiley*, p. 21). As a consequence, Boyatzis adds that: 'because job competencies are underlying characteristics, they can be said to be generic'. Here again we want to highlight the independent nature of job competencies along this school of thought: competencies are seen as context-free, meaning they can be found in a broad range of work activities regardless of the purpose, nature and environment of work. This has broad implications in the operationalization of competencies: further investigations by Spencer and Spencer (1993) in more than 200 different jobs show that higher performance is obtained by combining specific sets of competencies in a designated way. However adopting such view tends to produce general, abstract descriptions with weak fit to the specific development needs of organizations.

- *Work-oriented approaches:* this stream does not differ from worker-oriented approaches from an ontological standpoint, in the sense that it also takes competency as a selected set of attributes regardless of surrounding factors. However the starting point in this stream is not the

worker, but the work itself (Fine, 1988; Flanagan, 1954). Typical research activities within this stance consist in identifying central tasks for work completion, then transforming them into personal attributes. One of the key benefits lies in more detailed and concrete descriptions of competencies compared to the generic approach developed by the worker-oriented stream. However drawing a list of work activities does not bring enough insight on the knowledge, skills and abilities needed to obtain superior performance, according to critics (Raven, 1994).

- *Multimethod-oriented approaches:* as the label suggests, this stream combines elements from the two approaches described above, with a view to provide a more comprehensive grid able to depict competencies. The underlying theoretical base does not differ in nature: competency is still made of specific attributes. However the combination of worker attributes with work activities provides deeper descriptions of the competencies required to fulfill specific tasks, as Veres has shown in the case of police lieutenants (Veres et al., 1990).

Summarizing the views by the rationalistic schools of thought, competency is seen as an attribute-based phenomenon. It is made of a specific set of attributes that people mobilize in order to accomplish their job. This entails two major consequences: Firstly, the rationalistic approach to competency means organizations should look for the most competent people, understood as those detaining superior sets of attributes. This standpoint has broad implications in terms of contemporary HR policies, with HR departments focusing on talent acquisition and retention. In our context of technological disruption, adopting such underlying view means HR departments should primarily look for the competencies missing in the organization by hiring new, highly skilled workers available from the market. Secondly, and as has been mentioned earlier, competency is seen in ‘absolute’ terms, as a *sui generis* phenomenon. Contextual factors are eliminated from the different approaches. Superior competency in a designated area can be valuable to any sector or business environment, regardless of context or of the worker’s experience and motivations. It is defined in a fixed, independent way. The underlying conception of competency even

reinforces the tendency above: the question of individual fit to business environment comes as a side issue, with workers seen as nomadic resources that can be acquired independently of context.

4.2. TAKING AN INTERPRETATIVE VIEW ON INDIVIDUAL COMPETENCIES

Limitations of the rationalistic approaches to competency for our research problem and research question

As outlined in section a/, a first limitation comes from the results of the scientific approach to human competency: it produces quantitative measures leading to abstract and simplistic descriptions, not fully reflecting the complexity of competencies people mobilize for work completion. The shift to a digital workplace makes this point even more vivid: with technology evolving at fast pace and unstable business models in the background, competency requisites appear as both numerous and somewhat blurred. With our research problem and question in mind, we are making ours the critiques by Attewall (1990), Norris (1991) and Sandberg (1991, 1994) that operationalizing competencies through descriptive grids does not allow sufficient insight into the competency-based phenomena at play – especially in times of massive disruption. As Sandberg points out, 'Yuki (1994) came to a similar conclusion. He found that the abstract nature of the categories of competency used in most leadership studies tends to limit their utility. Moreover, the use of KSAs and other general models of competency within the rationalistic approaches tend to predefine what constitutes competency' (*Academy of Management Journal*, 2000, Vol. 43. No.1, p. 11). Another major limitation of rationalistic approaches with respect to our problem comes from weak insights into the mechanisms at play. We are looking at an emerging field, meaning we are expecting a better understanding of change as it happens. Descriptions of competencies from the rationalistic school of thought poorly inform the questions of 'Why do some workers attain higher competencies?', and 'How do they actually use them?' Investigating the *dynamics* and *processes* behind competency redefinition is central to our research – it therefore requires a different lens into the subject, in order to access

in-depth understanding. From a broader perspective, Sandberg insists that: '[…] the rationalistic researchers invoke a dualistic ontology, assuming that person and world are distinct entities, and an objectivist epistemology, assuming the existence of an objective reality independent of and beyond the human mind (Bernstein, 1983; Husserl, 1970/1936; Rorty, 1979; Schön, 1983; Searle, 1992; Shotter, 1992; Winograd & Flores, 1986). The dualistic ontology underlies division of the phenomenon of competency into two separate entities, namely, worker and work. The objectivistic epistemology implies objective, knowable work that is beyond workers and leads to descriptions of work activities that are independent of the workers who accomplish them' (*Academy of Management Journal*, 2000, Vol. 43. No.1, p. 11). The very nature and purpose of our research requires a distinct stance that derives both from the context and from the problem formulation. In our case, predefinitions of work simply do not exist as activities are being invented in front of our eyes, while intentionality of work by workers cannot be eliminated – as we are confronted to a move towards knowledge-based activities.

Adopting an interpretative stance to individual competencies

While the rationalistic school of thought has been historically dominant, the interpretative stream in research provides an alternative view able to overcome some of the limitations we have described above. As briefly highlighted in the research problem section above, both streams have a common base, taking a 'human resources' entry point into competency-related questions (Bergenhenegouwen, 1990; Drucker, 1992; Godbout, 1998 and 2000; Spencer & Spencer, 1993). However there is a dividing line between rationalists (job-based theories) and the interpretative approach based on an integrative stance (Sandberg). What distinguishes the two from an ontological perspective is the underlying sociological base that defines the interpretative approach. Sandberg synthesizes it as follows: 'Weber (1964/1947) was the primary initiator of this tradition, but phenomenological sociologists such as Schutz (1945, 1953), Berger and Luckmann (1966), and Giddens (1984, 1993) developed it further. The main feature of the interpretative tradition is its phenomenological base: the stipulation that person and world are inextricably related through persons' lived

experience of the world' (*Academy of Management Journal*, 2000, Vol. 43. No.1, p. 11). As a consequence, the interpretative school of thought does not take worker and work as separate entities but as a single one made of the lived experience of work. According to Sandberg, the construct of competency comes with a new definition, allowing richer outcome to emerge: 'Competency is thus seen as constituted by the meaning the work takes on for the worker in his or her experience of it (Dall'Alba & Sandberg, 1996; Sandberg, 1994). The shift in the point of departure – from worker and work as two separate entities to the workers' lived experience of work – gives rise to an alternative way of understanding human competency at work' (*Academy of Management Journal*, 2000, Vol. 43. No.1, p. 11). From this central definition, there are significant differences with rationalistic approaches down the road to establishing competencies: Firstly, attributes used by people while accomplishing work are not context-free. They are situational and context-dependent. Secondly, and as a consequence, there is a tacit dimension that goes along with competency, as experiencing work carries its own importance and meaning in the specific context lived by the worker (Polany, 1967).

As elaborated by Giddens (1984) and further reflected by Sandberg (2000): '[Work activities are] largely carried out in practical consciousness. Practical consciousness consists of all the things which actors know tacitly about how to 'go on' in the contexts of social life without being able to give them direct discursive expression' (*Academy of Management Journal*, 2000, Vol. 43. No.1, p. 12). A significant difference between rationalistic approaches and the interpretative school of thought lies in the importance awarded to this tacit knowledge by the latter stream in research. Needless to say, if competency is a *sui generis* phenomenon that shows no dependency on context, then there is no obligation to capture its tacit dimension. As a result, tacit knowledge and skills as well as environmental factors influencing workers are overlooked by the rationalistic approaches (Brown and Duguid, 1991; Fielding, 1988; Schön, 1983). One of the most significant benefits from the interpretative approach to competency is that it carries a 'bottom up' stance, making it necessary to capture the microfoundations of work activities at the worker's level, and include the subjective experience of individuals into the picture. Consequently, pulling together all these elements provides a very different image of the reality of work

from the one displayed through KSA-based charts. As Sandberg reflects, calling on Brown and Duguid (1991): '[…] The ways people actually work usually differ fundamentally from the ways organizations describe that work in manuals, training programs, organizational charts and job descriptions' (*Academy of Management Journal*, 2000, Vol. 43. No.1, p. 12). In a sense, the competency gap that we have identified as part of our research problem – and a reason for this thesis – also originates from this recurring gap in practice. While organizations tend to look at competency with a scientific eye, categorizing and profiling their needs from the top, individuals act with the underlying knowledge they have and under environmental pressure, adjusting their competencies to renewed material conditions. From this fuzziness emerges a distinctive, enriched vision of competency that is meaningful to people. Sandberg reinforces this point by calling on Schön's study of universities and other training institutions (1983). According to Schön, Sandberg insists, these institutions are molded by a rationalistic epistemology that 'fosters selective inattention to practical competency and professional artistry' (*Academy of Management Journal*, 2000, Vol. 43. No.1, p. 12). Looking at what professional workers such as architects, psychotherapists, engineers, planners and managers actually do when they work, he finds them framing and setting the problematic situations they face through their experience of work. To name it differently, workers are using attributes to perform work, but these attributes are never distinct from their own experience: according to Sandberg, they are 'internally related to work through their way of framing the specific work situation' (*Academy of Management Journal*, 2000, Vol. 43. No.1, p. 12). Drawing on the interpretative stream, Sandberg further developed his approach by looking at possible variations in workers' competency, calling on phenomenography. The underlying base for phenomenography consists in searching for the meaning structure of work as a lived experience. As he conducted research among individuals confronted to the same job requirements, Sandberg identified variations in the meaning of work that eventually lead to differences in competency. While previous research based on phenomenography was used in Sweden as early as in the 1970s (Marton, Dahlgren, Svensson & Säljö, 1977), Sandberg's contribution clarifies the concepts by unifying the different elements under the term 'conception of work'. Referring to an empirical study of 50 engineers all belonging to the engine optimization department of the Volvo Car Corporation, Sandberg uses the term

conception [of work] as 'the indissoluble relation between what is conceived (the conceived meaning of reality) and how it is conceived (the conceiving acts in which the conceived meaning appears)' (*Academy of Management Journal*, 2000, Vol. 43. No.1, p. 12). Based on this, he was able to isolate three distinct conceptions of work among his sample of Volvo engineers, each of the three generating different sets of key attributes of competency. Conception 1 consists in optimizing separate qualities of the engine, conception 2 focuses on optimizing interacting qualities and conception 3 takes optimization from the customer's perspective. Each conception entails a different set of abilities and knowledge, resulting in a distinctive form of competency. One of Sandberg's key results is that a hierarchy of competency emerges from the model. While conception 1 tends to limit the scope of work through separate steps and the use of single parameters, conception 2 broadens the approach to relations between the different qualities of an engine and conception 3 expands the view even further by taking into account customer requirements. A natural hierarchy of competency derives: conception 3 appears as the most sophisticated and comprehensive one – calling on a practical sense of the engine. While acknowledging the existence of attributes that contribute to the definition of competency, empirical findings by Sandberg suggest that human competency is not *primarily* a specific set of attributes. Based on his study of Volvo engineers, Sandberg demonstrates that the way workers conceive their work actually 'create[s] and shape[s] the context from which the attributes acquire their specific meaning for competent work performance' (*Academy of Management Journal*, 2000, Vol. 43. No.1, p. 21). Another major development from the phenomenographic approach to competency is that it allows further understanding of how competency is empirically nurtured. Results from Sandberg's sample tend to indicate the existence of two distinct forms of competency development: (1) changing the present conception to a different conception of work, and (2) developing and deepening present ways of conceiving work. As a consequence, findings from the study challenge the traditional view of competency development as being a stepped process, through which beginners in a new role acquire additional bricks of knowledge in order to become experts. Sandberg finds competency development to be less linear: 'The variation in performance is not first and foremost related to a specific set of attributes possessed by those who are regarded as the most competent. Instead,

why some people perform particular work better than others is related to variations in ways of conceiving that work' (*Academy of Management Journal*, 2000, Vol. 43. No.1, p. 21).

In relation to our research problem, we are clearly placing ourselves in the interpretative school of thought, adopting Sandberg's view and approach of phenomenography. Our rationale for selecting this theory can be synthesized along the following: Firstly, we are interested in informing individual representations and actions around work in our context. Contextual factors tend to be minimized in the rationalistic view. These factors are precisely the ones stretching and influencing inherited patterns in technologically disrupted times. So that using the rationalistic lens tends to limit the understanding of the phenomena at play under the circumstances we are studying through research. Secondly, informing the conception of work from people engaging into change provides deeper insights into the transformation mechanisms. The reflexive and intentional nature of work as a social activity is in our view a relevant approach when looking for new and complex configurations of competencies that can potentially help organizations succeed with digital. Also, phenomenography may potentially bring valuable temporal insights into our topic, putting at the front the historical components of inherited work representations among the working population that serve (or hinder) adaptive, contextual needs. Lastly, while looking at change, we are looking at enactment, with all the elements that forge individual propensity to act: willingness, motivation and fears – not just abilities. As illustrated by the case of journalists from the French regional daily Sud Ouest, these factors may play a significant role in competency development and eventually business model change. Enactment is fully part of phenomenography, which looks at the lived experience of the world.

Clarifying our stance further down the road

We do not intend to investigate competencies from a human resources perspective. Nor shall we take an occupational psychology or L&D lens into the subject. While we acknowledge the importance of HR support to a changing workplace, we regard this question as deriving from competency transformation requirements – therefore not forming the focal point of our research. The HR

approach to competency focuses on superior individual performance and how to achieve it as a goal through best practice (Timmerman, 2009). This will not be our lens into the topic primarily because we regard this approach as a next step for future research at organizational level (what competencies should be leveraged among supporting and managerial functions for BM success certainly matters, however this is broadening the scope of our initial research too much). So that the question of how to increase individual propensity to acquire new knowledge and skills, from an HR policy and tools perspective, is not covered in our methodology. Findings from our field should nevertheless be discussed with the human resources question in mind: as introduced earlier, HR departments are strongly involved in the global race to acquire digital talent, and this raises some additional concerns.

Detailing our approach to competency in more depth, we intend to use the concepts of knowledge and skills brought together under the term conception reflected in the literature:

- *Knowledge:* We are considering knowledge as the cognitive resources acquired by individuals, forming competencies along with skills and, in relation to our subject, available to perform work – calling on the previous contributions by McLelland (1973), Boyatzis (1982), Kolb (1984), Morgan (1988), Nordhaug (1993) and Sandberg (2000). What we are interested in is the stretch originating from business reconfigurations over the individual competency level. In that respect, the question is how the disarticulated knowledge inherited from previous technology-led routines, artifacts, organizational demands and industry representations is rearranged over the disruption period to serve emerging business models and innovation. Inputs from learning institutions – not just individual professionals – may help understand the knowledge legacy.

- *Skills:* We are considering skills within the same research stream, as the information processing abilities gained from learning by doing, forming competencies along with knowledge, and shaping an individual's propensity to adapt to new action needs from experience. In a disrupted environment, canonical truth tends to consider skills as more important than knowledge to

adapt to contextual factors. We intend to collect evidence from individuals enacting digital change, in order to identify the skills they are mobilizing to perform the new job.

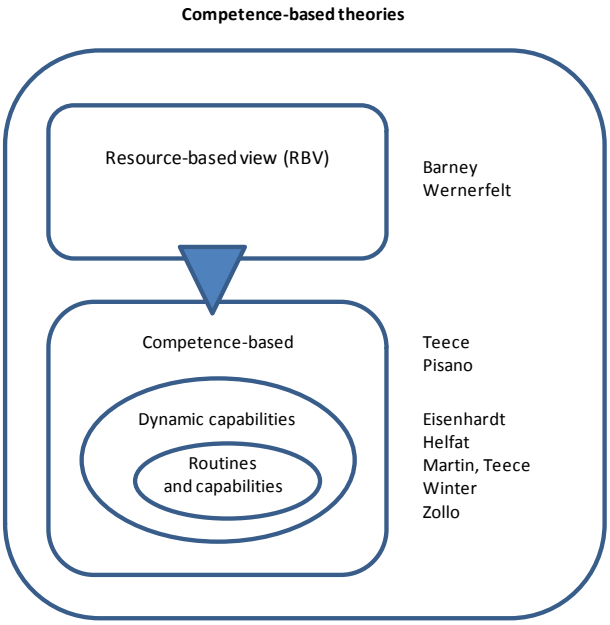
Using this frame, we are informing competencies among professionals by looking at how people are effectively reconfiguring their competencies (knowledge/skills), and isolating the competencies that matter for digital (old/new). We may find that representations of work acquired before the shift are actually so strong that individuals are lowering their adaptive abilities, and that this may be a cause for broader problems at collective levels. But we may also be able to inform the reconfiguration patterns people are engaging in, and categorize the sets of competencies mobilized, either new or old.

Distinguishing individual competencies from organizational ones, and underpinning the theoretical bridges between the two

Clarifying our theoretical perspective further, we find it useful to bring deeper understanding of what differentiates individual competencies from organizational ones, while highlighting the conceptual links between the two levels. In relation to our research topic and purpose, we intend to bring outcomes from the individual level into organizational questioning, and this requires an eye on both levels. There is some degree of theoretical fuzziness around competency – however as introduced earlier, fields are disconnected and refer to distinct academic traditions and sources. At individual level, we have reflected on competency as being embedded in psychology, with key research questions relating to superior individual performance and fit to organizational needs. At firm level, key research questions reflect the need to develop competency for competitive advantage and success. There is a consistent stream in research since the 1980s that is onboarding competency into strategic thinking. Hamel and Heene (1994), Sanchez, Heene and Thomas (1996), and Sanchez and Heene (1997) have contributed to establishing a theoretical frame for competencies. From there, the term competency should be understood as embracing assets and resources, but also the different forms of knowledge and skills a firm is able to master (from: Durand, 2006). The competency-based theory, as developed by

Hamel and Prahalad (1994), Sanchez et al. (1996) and Teece et al. (1997), and derived from the resource-based view of the firm ('RBV' – Amit, 1993; Barney, 1991, 1996, 2002; Wernerfelt, 1984), forms the bedrock of the approach: within this stream, strategy is considered as emerging from the interaction of dynamic capabilities (Teece et al., 1997) and core competencies, as formulated by Wilkens et al. in 2004. In times of rapid technology change, the capability-based view over competencies (Sanchez et al., 1996; Teece 1997; Sanchez, 2001; Teece and Pisano, 2004) appears as highly relevant: competencies are taken as contributors to a firm's capacity to develop and reconfigure its resource base. Another way of defining a competency is to label it as a configuration of resources that enable the firm to accomplish a particular task. Interestingly we want to highlight the closeness of capabilities and competencies in the literature, as terms may be found in substitution or interrelated (Teece and Pisano, 2004). The following diagram synthesizes the theoretical flow capturing competencies at organizational level:

Diagram 2. **Synthesizing the theoretical perspective at unit level**



As a construct, organizational core competencies are subject to various wordings reflecting some persisting difficulties in stabilizing and anchoring the fundamentals, despite thorough research over time. However 'Distinctive capability', 'distinctive competency' and 'core competency' (Edgar & Lockwood, 2008) appear as most commonly used since the 1990s – suggesting the importance of differentiation as conceptual bedrock for competitive advantage (distinctiveness or uniqueness may also appear as phrasing alternatives with close significance in research), along with the need to depict and qualify the nature of the knowledge and abilities detained by organizations.

Competencies therefore contribute to an embracing approach of competitive advantage, sustaining the concept of differentiation. Following Freiling (2004), we are suggesting the use of the terms and definitions displayed in the table below:

Table 1. **Definition of central concepts**

Asset	Homogeneous external or internal factors, serving the firm as input for value-added processes
Resource	Result of successful asset refinement processes, producing sustainable heterogeneity of the owning firm in competition and enabling the firm to withstand competitive forces
Competency	Organizational repeatable, learning–based and therefore non-random ability to sustain the coordinated deployment of assets and resources enabling the firm to reach and defend the state of competitiveness and to achieve the goals

From*: 'A Competency-based Theory of the Firm',* Freiling, 2004

We are insisting on the dichotomy that appears as intrinsic to core competencies in the literature: on the one hand, competencies are moving and changing by nature – they are serving environmental adaptation needs and varying purposes

from the corporation, following a congruence vision of the firm. On the other hand, core capabilities should be preserved as a factor for sustained performance, therefore maintained over time. These somehow opposed injunctions are balanced together, as has been formulated in research, taking root in the distinction between knowledge and action (Bogner & Thomas, 1994; Fowler et al., 2000; Lei 2000; Leonard-Barton, 1992; Nelson & Winter, 1982; Penrose, 1959; Pitt & Clarke, 1999; Post, 1997; Sanchez et al., 1996; Walsh & Linton, 2001). As stated later by Edgar & Lockwood: 'In general, core competencies have been seen as capabilities held by people within a firm that, when applied to create products and services, make a critical contribution to corporate competitiveness' (*Journal of Business Inquiry*, 2008, p. 21).

Prahalad and Hamel (1990) have contributed to a major leap in their Harvard Business Review article entitled 'Core Competency of the Corporation', pulling together findings from several companies competing in the same fields and showing how competencies in their singularity contribute to strategic differentiation at organizational level, preventing imitation from other players and entrants. 'The company, like a tree, grows from its roots', the authors advocate. 'Core products are nourished by competencies and engender business units, whose fruit are end products': the image is self explanatory; while consolidating a dynamic, somewhat organic vision of the firm, it also entails a renewed approach of a company's asset base. 'Unlike physical assets, competencies do not deteriorate when they are applied and shared. They grow', the authors add (*Harvard Business Review*, May-June 1990, p. 82). The vision brought at the forefront has triggered intense interest from the research community, allowing further refinement in the 1990s and in recent years.

Core competencies traits as derived from Prahalad and Hamel have been further articulated by Mascarenhas et al. (1998) and are defined below:

- A core competency makes a contribution to customer perceived benefits,
- It is difficult for competitors to imitate,
- It can be leveraged to a wide variety of markets.

Another overhanging view is provided by Greaver (1999): 'Core competencies are the innovative combination of knowledge, special skills, proprietary

technologies, information and unique operating methods that provide the product or the service that customers value and want to buy.' (Greaver II M.F., 1999, Strategic Outsourcing, Chapter 7, p. 82).

Categorization and description of individual competencies has been an aim of research within the rationalistic school of thought, as reflected earlier. In the same way, taxonomy building has been the major purpose of initial research at organizational level, with an objective to bring stability and practicality into the construct. However the limitations of this descriptive view have raised concerns at organizational level too. The need to identify the processes of competency implementation has rapidly emerged. As Bash elaborates in 2000 calling on Barney's view (1986), organizational capabilities are determined by unique patterns of interactions between technologies, techniques and people, which cannot be easily imitated, since these interactions are shaped by the organization's unique history and culture.

Categorizing previous outcome from the literature, Edgar & Lockwood are suggesting the existence of four distinct perspectives applying to core competencies, providing useful axes for further insight into the topic. The table next page summarizes the different approaches and provides sampling of the corresponding literature[5]:

Table 2. Summary of scholarly approaches to organizational competencies

Perspective	Authors	Underlying rationale	Examples
1) Phenomena and related disciplines	Bakker et al., 1994 Gallon et al., 1995 Leonard-Barton, 1992 Prahalad & Hamel, 1990 Walsh & Linton, 2001	An organizational competency involves an understanding of specific phenomena and their related disciplines	Phenomena: pharmaceuticals, electronics, engines, etc. Disciplines : biochemistry, physics, mechanical engineering

[5] For comprehensive literature review: W.B. Edgar & C.A. Lockwood, 2008: Journal of Business Inquiry, p 22

Perspective	Authors	Underlying rationale	Examples
2) Technology and related products	Bakker et al., 1994 Bogner & Thomas, 1994 Hamel & Prahalad, 1994 Petts, 1997 Wang et al., 2004	An organizational competency includes a technology and its related products. The competency supports provision of multiple products arising from the technology	Technology: computing, printing, internal combustion etc. End products: desktop computer, made of core products (i.e.: a hard drive)
3) Skills	Bogner & Thomas, 1994 Davies & Brady, 2000 Goddard, 1997 Klein & Hiscocks, 1994 Thomas & Pollock, 1999 Wang et al., 2004	An organizational competency usually includes functional skills	Skills: marketing, manufacturing, distribution, production scheduling
4) Integration of Technology and Skills	Gallon et al., 1995 Gorman & Thomas, 1997 Hafeez et al., 2002, Hamel & Prahalad, 1994 Torkelli & Tuominen, 2002 Wang et al., 2004	An organizational competency includes an integration of some kind, usually of technology and skills	Integration: the Honda's corporation ability to integrate the technology of internal combustion with the functional skills of engineering and manufacturing to create high quality small engines (Hamel & Prahalad, 1994, p 204)

Adapted from Edgar & Lockwood, 2008

Applying content analysis to four different technological firms, the authors are drawing outcomes and suggesting categorization of core competency components within the different perspectives presented above. The key takeaways may be expressed as follows:

- no perspective is exclusive to the others (1);
- extensive understandings of underlying technologies form sets of knowledge that are included in a competency (2);
- knowledge application includes functional and technological capabilities, that together form integrated skills and skill sets (3);
- organizational competencies work through the progressive interaction of component understanding (knowledge) and skills (action) (4);

Natural development in research brings point (4) into light, along with the need to depict those specific sets of interactions that link knowledge to practice. Foreground (or explicit) knowledge should hence be distinguished from background (or implicit, tacit, procedural) knowledge (Nelson & Winter, 1982) to suggest actionable frameworks. Walking down the road from taxonomy to the dynamics of competencies, research is looking at competencies as they are enacted. At this point we want to highlight the parallel between individual competencies and organizational ones through research: there is a common path towards a dynamic, integrative view over competencies. In a context of digitization, integrating technology and skills, as listed by Edgar and Lockwood [perspective (4)], is a natural development of the core competency concept. We are insisting that the need for such underlying integrative approach is even more critical today. In an open world, no core competency for the future can rely on the mastering of an exclusive discipline, the ownership of a non replicable technology or the protection of a skill set over time. Rather, it is the combination of competency dimensions that brings determining competitive advantage and sustainability to firms, as disciplines are cross-fertilizing, technology is turning into a commodity and skills are becoming as nomadic as employees themselves. Summarizing the theoretical view over organizational competencies, we are making ours the perspective of Eisenhardt, considering that 'effective organizations in dynamic environments are consistently able to create and recombine resources in novel ways' (Organization science, Vol. 21, No. 6, November–December 2010, pp. 1263).

In this section we have distinguished individual competencies from organizational competencies in the theory, with two objectives: Circumscribing the theoretical background for this research as explicitly as possible (namely

calling on individual competency theory with an interpretative stance), and highlighting the closeness of concepts applying at both levels of analysis. Doing so, we want to outline the consistency of approaches at micro and macro levels, and possibly prepare the ground for the onboarding of individual competencies into a broader perspective, for firms engaging into digital strategies.

Regarding this last point – and as a final remark – we are insisting that knowledge and skills are the essential components of the competency construct at both levels, with close definitions. The interpretative stance at individual level and the integrative view at organizational level are close theoretical answers to the same need, i.e. the need to capture the dynamics and processes for competency development. The question of distinctiveness is central at both levels, although it translates in different ways: competency distinctiveness at individual level is seen as a way to obtain superior work performance, while organizational theory looks at competitive advantage. However outcomes are strongly connected from a conceptual point of view: the collective dimension of superior individual work performance should contribute to sustainable competitive advantage at firm level.

4.3. OPERATIONALIZING COMPETENCIES IN BUSINESS MODELS

While we are looking at firms operating a digital turnaround, relying on business model frameworks comes as a natural theoretical approach to onboard the competency component and to categorize results. Before we step into this section and as an introductory note, we want to provide some guidance into the use of frameworks for research purposes. As Warnier, Demil and Lecocq explain (2015), while theory offers a determined frame for research, frameworks provide objects for conceived management. The authors insist that frameworks are end-products that differ in nature from conceptual frames. They are calling on the definition by Teece to shed more light: 'A framework, like a model, abstracts from reality. It endeavors to identify classes of relevant variables and their interrelationships' (Teece, D.J. 2007, *Strategic Management Journal*, 28, p. 1320). While these characteristics may appear as close to the definition of a

theory, frameworks are more specific, the authors add, referring to Teece again: ‘A framework is less rigorous than a model as it is sometimes agnostic about the particular form of the theoretical relationships that may exist’ (Teece, D.J. 2007, *Strategic Management Journal*, 28, p. 1320). Stepping back to the research problem, our rationale for using business model frameworks derives from our inferences: (1) there is a practicality issue behind the onboarding of individual competencies for firms going digital, and (2) there is a need for improved links between micro and macro levels. Referring to the subsets of research questions from section 3/, this thesis should specifically offer a frame to highlight the factors found to favor/hinder individual competency transformation at firm level, and propose commonalities between digitally successful firms, from a competency standpoint.

We are suggesting the use of business model frameworks as an answer to the need for actionable results that can be easily categorized. More specifically, categorizing outcomes through BMs is a methodological approach prone to contrast situations and isolate the competency factors found to play a role for digital success.

From the empirical claim in section 1/, we are looking at strategy enactment in firms operating a digital turnaround. Introducing business models as a methodological answer to the classification of results, we want to place BMs in their broader theoretical field and relate them to strategy first, before highlighting recent trends in research on BMs and explaining their interest for our research.

From strategy conceptualization to strategy implementation

Strategy has long been a military concept before researchers developed an interest for management and business. Game theory opened the way to the business applications of strategy after World War II (Von Neumann and Morgenstern, 1947). However there is no proper consensus around what strategy actually is. Peter Drucker (1954) was among the first to address the issue of strategy. To him, an organization's strategy was the answer to two questions: What is our business? What should it be? Chandler (1962) later suggested a

broad definition: ‘Strategy can be defined as the determination of the long-term goals and objectives of an enterprise, and the adoption of courses of action and the allocation of resources necessary for carrying out these goals’ (Chandler A.D. Jr., 1962, Strategy and Structure, *The MIT Press*, p. 14). However such definition does not distinguish the processes through which strategy is carried out. Chandler’s vision was further refined by Andrews (1965, 1971), who stated that ‘[...] strategy is the pattern of objectives, purposes or goals and major policies and plans for achieving these goals, stated in such way as to define what business the company is in or is to be in and the kind of company it is or is to be’ (Andrews K.R., 1971, Resources, Firms and Strategies, *Oxford University Press*, Chapter 5, p. 52). By contrast to Andrew’s view, Ansoff (1986) developed a distinct approach to strategy as forming the ‘common thread’ among an organization's activities and product/markets that defines the essential nature of the business that the organization is in and plans to be in the future. Behind the differences in formulation, there are structural debates along three key axes: (1) the scope of the concept of strategy (should strategy cover the goals of an organization, or just the means), (2) the components of strategy (should strategy include them and if so, what are they), and (3) the inclusiveness of the strategy formulation process (should goal setting be part of it, or should it be kept a separate process). While the discussion originated between Andrew and Ansoff, it has been vivid among researchers in the following years. Contributors to the topic include Cannon (1968), Steiner (1969), Katz (1970), Ackoff (1970), Newman and Logan (1971), Glueck (1976), Steiner and Miner (1977), Hofer and Schendel (1978) and Weick (1983), but there is still no common approach to the three points discussed above. Ellen Chaffee suggested a categorization of the strategy models from the literature into three distinct groups (Chaffee, 1985), that has been further described by Banatt (2005):

- *Model 1: Linear strategy*. This approach focuses on planning. Goals, and the means of achieving them, are considered as resulting from strategic management. This model typically draws on Chandler’s definition of strategy – which we have reflected above. In this model, strategy is produced from the top of the organization. The leading management team plans how it will cope with competition and achieve the organization's goals.

- *Model 2: Adaptive strategy*. This approach develops an incremental view of strategy. ‘Strategy is concerned with the development of a viable match between the opportunities and the risks present in the external environment and the organization's capabilities and resources for exploiting these opportunities.’ (Hofer, 1973). Compared to model 1, model 2 allows broader onboarding of environmental factors into strategic activities. Strategy does not just rely on leaders of the organization. In adaptive strategy, the organization and its components change, proactively or reactively, to provide improved fit with consumer preferences.

- *Model 3: Interpretive strategy*. In this model the organization and its environment as interacting just like in model 2, however strategy is the result of views, representations, meanings and actions carried by managers mostly. They are considered as ‘holding a cognitive map that provides a view of the world, helps interpret the changes the organization faces, and provides appropriate responses’ (Weick, 1983). In interpretive strategy, members of the organization carry meanings able to mobilize the different stakeholders in ways that benefit the organization.

While these three models refer to distinct streams in research, there is a common underlying view that strategy is a dynamic, moving and emergent process. From there, a major step in strategy formulation derives from Henry Mintzberg’s vision of strategy as ‘a pattern in a stream of decisions’ (Mintzberg, 1978). Mintzberg's approach tends to consider strategy as a conscious decisional path. Strategy does not limit to a single decision by the organization, rather, it is the result of numerous decisions in a designated context that need to be consistent. Deriving from this view is the idea that the organization should be aware of the alternatives available, in order to choose. According to Mintzberg, strategy may be understood as the rationale that governs the organization's choices among its alternatives, and not simply a result of the planning process. Mintzberg’s view does not reduce strategy to a deliberate process ignoring the range of available options. It also distinguishes deliberate strategy from emergent strategy, stating that in some cases strategy may not be intentional but simply emerges from the core of the organization as a result of what it does. In addition, effective

strategies cannot be seen as the pure result of planning: As Banatt explains (2005), alterations in goals and 'course corrections' may produce strategies that vary from their original design. For these reasons, the study of strategy must extend beyond study of the planning process. However, deliberate and emergent strategies may be conceived as two ends of a continuum along which real-world strategies lie. The concept by Mintzberg and Waters of strategy as 'a pattern in a stream of decisions' is building on this continuum to suggest different types of strategies that had not been specified through research before (planned strategies, entrepreneurial, ideological, umbrella, process, unconnected, consensus and imposed).

We do not intend to reflect in more depth on academic contributions to the notion of strategy. Our purpose is to draw from broad strategic thinking to the bounded purpose of this research, in a context where firms are massively engaging into digital strategies. What we have highlighted is a simultaneous move over time in research: From broad definition to the description of planning activities able to support the strategy process, and from context-free strategic thinking to the capturing of all endogenous and exogenous elements influencing the strategy process.

These somewhat contradictory evolutions reflect an increased need for tools and techniques, and a simultaneous call for a reflexive stance – acknowledging that strategy is also a subjective process made of individual and organizational preferences, intuitions and biases, whether tacit or explicit. At some point, strategy contains entwined notions, all referring to three key, generic questions applying to an organization's activity: Why? What? And: How? Answers to these questions together define an organization's project (From: Demil B., Lecocq X. and Warnier V., 2013, Stratégie et Business Models, *Pearson*, Chapter 1, pp. 8-10). According to Demil, Lecocq and Warnier, the question of 'why' embraces sets of interrogations such as: 'Who are we as an organization?', 'What is our business about?', 'What should our business be?' and: What do we intend to be?' While these questions may appear as metaphysical, they are central to the definition of a mission statement and together form a determinant of strategy evolution and execution. Answers to these questions enable a vision for the future to take shape. From this point, an organization should then set specific goals and objectives able to motivate people, frame action, build an

internal and external representation as well as offer a base for performance measurement. Goals and objectives are structuring the question of 'what': while goals correspond to the essential aspirations of the organization (generally reflecting ambitions in terms of external positioning), objectives are assigned with respect to a roadmap. They should be clear, measurable and realistic, providing due dates for achievement and allowing discussions for evaluation and revision to take place. Lastly, the question of 'how' covers all the choices made necessary for action, either explicit (policies of the organization) or implicit (underlying models and representations among decision makers). Coherence of these choices over time is determining the long term sustainability of strategy. As a result of the above, strategy embraces a double choice: (1) an external positioning of the organization relatively to its environment and competition, and (2) an internal agency, or in other words the structuration of the activities that follow strategic intentions (From: Demil B., Lecocq X. and Warnier V., 2013, Stratégie et Business Models, *Pearson*, Chapter 1, p. 10).

Business models as an answer to strategy formulation and implementation needs

Business models have become increasingly popular since the end of the 1990s, as a way to capture some of the fundamental notions of strategy and structure their implementation. Ghaziani and Ventresca (2005) have quantified the use of the term 'business model' through press articles and highlighted this surge in popularity in a moving business environment. According to Demil, Lecocq and Warnier, two main factors explain why firms are adopting business models:

Firstly – and this is fully part of our empirical claim – the disruption from digital technologies is reshuffling the cards of competition in many sectors. New revenue streams are being generated in novel ways, with new entrants redesigning traditional ways of conceiving business (from offerings to mediation and distribution). Systemic views now poorly fit reinvention processes that have become mandatory in a broad variety of sectors. One of the reasons for the discrepancy of more traditional strategic thinking is that old boundaries have lowered, as a result of sprawling technology: taking a competency view, people and organizations are engaging into rapid skill change and learning by doing due to extra-sector competition. Another decisive factor is the role of newly

empowered customers on actors and institutions. The popularity of business models in the management sphere derives from the need for actionable processing of strategic activities in this new ecology.

Secondly, massive deregulation of entire sectors once protected from competition has occurred (Rédis, 2007). Sectors like air travel, telecom, financial services or the media industry have all opened to new, aggressive competition. In this context, business models represent a convenient 'object' for entrepreneurs to explain current positions, describe future revenue streams, secure and possibly convince investors. Use of the business model (BM) concept has thrived as start-ups and new businesses from these sectors had to explain to investors how they intended to generate sales and profit to access funding (Eisenmann, 2002). Similarly incumbent businesses started to engage into major innovations, with a need to formalize the strategic shift in an explicit way.

While they have been extensively adopted by managers for the reasons above, business models have become an object for academic research too, which reflects both in scholarly articles and book publishing (e.g. Afuah, 2004; Verstraete and Jouison-Laffitte, 2009). The rationale somewhat differs: it has to do with the need to cover a broader variety of business performance options, at a time mainstream strategic thinking tends to rely on homogeneous, intra-sector conditions. The different characteristics of business models – the genuine combination of an integrative approach, along with a pragmatic frame, and the ability to capture creative strategy while covering different layers of strategic content – certainly account for much of the academic interest.

A central feature of business models – and a reason for their popularity both in the management sphere and among the academic community – is the room allowed to innovative value creation propositions in frameworks. Not only do BMs provide frames for analysis. They also enable the designing and conception of new, genuine value propositions. At this point, and calling on previous contributions from the literature, we want to bring the definition of business models into light. As reflected by Angot, Lecocq and Plé (2010) and originally noted by Magretta (2002), the main strength of a BM is that it tells a story about the business. From an ontological perspective, the BM is an operational tool expressing the business logic of an organization (Osterwalder, 2004). In a sense,

BMs form a convention between stakeholders with respect to value generation and sharing (Verstraete and Jouison, 2007). Referring to the terms above (‘story’, ‘tool’, ‘convention’), no wonder BMs have long been overlooked by scholars: their hybrid nature places them in some sort of twilight zone from a theoretical perspective. Historically, and as underlined in the sections above, strategic thinking has looked primarily inside the organization and comparatively to intra-sector competition (Porter, 1979, 1980, 1985). This led Porter to state that ‘[...] the business model definition is murky at best’ (Porter M., 2001, p. 73).. However, ‘due to its ability to link business strategy and operations, BM is a ‘meso-level’ construct congruent with managers’ day-to-day frame of action’ (Angot, Lecocq and Plé, 2010, Demil and Lecocq, 2008), and a very attractive concept to them (Tikkanen et al., 2005). In a way, business models are filling some of the conceptual ‘white spots’ left by traditional strategic thinking. They may have been criticized for their lack of consistency at the turn of the XXIst century, still BMs have been an area for constant refinement and formal improvement ever since. Seventeen years from Porter’s remark, research has moved forward drastically from the emerging fuzziness of knowledge creation, as shown by Wirtz (Wirtz et al., 2015). One of the first thorough definitions of a BM was provided by Timmers (1998), who stated that: ‘a business model includes an architecture for the product or service, an information flow, a description of the benefits for the business actors involved, and a description of the sources of revenue’ (Timmers P., 1998, *Research Note* 98-21, p. 2). Since Timmers proposed his view, value creation and value appropriation have been the main drivers for further conceptualization and research. While some ongoing definitions may appear as broad and general, others tend to be more descriptive. In the most basic sense, a BM is the method of doing business by which a company can sustain itself – that is, generate revenues (Rappa, 2003). The main focus lies on revenue and profit generation, which BMs simply allow to capture by answering a very plain question: ‘How to make money in my industry?’ (Afuah, 2004) As suggested by Lecocq et al. (2006) and further outlined by Angot, Lecocq and Plé (2010): ‘BM is a consequence of the choices made by an organization (whether for profit or not) to generate revenues in a broad sense (turnover, but also royalties, rents, interests, subsidies etc.). These choices encompass resources and competencies to value goods and/or services supplied and the internal and external

organization of the business. As such, BM approach encompasses operational elements whereas traditionally strategic management and operations are distinguished or opposed (e.g. Porter, 1996). This integrative approach gives a crucial role to the implementation of and congruence between elements in the performance of an organization'[6]. As a consequence, more descriptive approaches to the concept are figuring out both the detailed, operational elements of BMs and the links between them. This was synthesized by Osterwalder who sees a business model as a conceptual tool that contains a set of elements ant their relationships and allows expressing a company's logic of earning money (Osterwalder, 2004). Other scholars have suggested varied formulations before Osterwalder – all elaborating on the same view of BMs being made of components and interactions. According to Venkatraman and Henderson (1998), the BM is a coordinated plan to design strategy along customer interaction, asset configuration and knowledge leverage dimensions. Hamel (2000) sees the BM as the interaction of four axes: strategic choices, resources and competencies, customer interface and the shareholders' value network. Going from broad definition to a thinner, descriptive view, Chesbrough and Rosenbloom (2002) are proposing to structure BMs along six different components: (1) value proposition for customers, (2) market segment, (3) value chain structure, (4) revenue generation and margin, (5) position in the value network, and (6) competitive strategy. Other approaches to BM components and interactions include Voelpel, Leibold, Tekie and Von Krogh (2005), who are integrating a 'back loop' in their model. According to them, there are three components in a BM: (1) a value proposition for customers, (2) a value network configuration to create that value, and (3) returns ensuring the satisfaction of relevant stakeholders and thus the sustainability of the BM.

New academic developments in BMs

As objects serving managerial purposes, business models need to resist empirical stretches. Equally – and this has been partly covered in the section above – they should allow improved definitions to flow in and formal enhancements to be suggested. Their hybrid nature is precisely prone to such adaptations: it brings

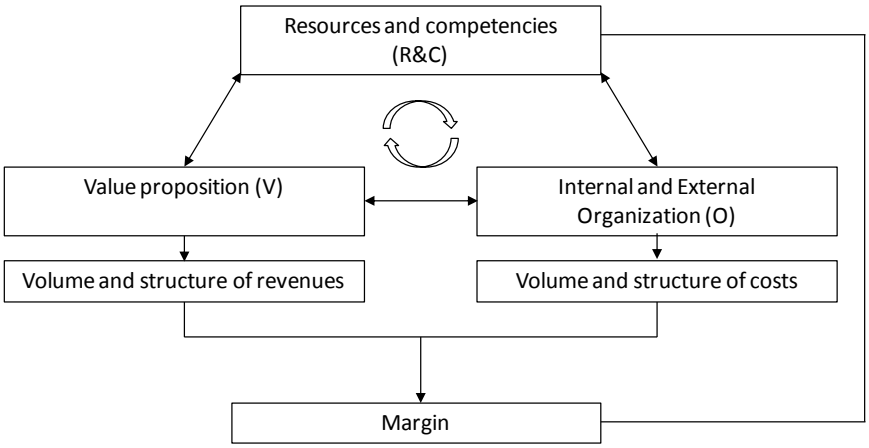
[6] Angot J., Lecocq X. and Plé L., 2010, *M@n@gement* vol. 13 no. 4, p. 229

room to conceptual flexibility. Looking at the production in research, business models have benefited from this movement, going from fixed to dynamic frameworks in the last decade. While dynamic resource-based and competency approaches of strategy creation have largely preceded the emergence of business model frameworks (Wernerfelt, 1984; Barney, 1989), research on BMs appears as more intense today with the same key factors underpinning academic production: augmented relevance of the BM approach deriving from technology disruption, along with alternative market views encompassing the classic rules of competition. As a broad phenomenon, digitization is the main driver of the research dynamics, and a natural trigger for interest from the academic community: it has changed the competition game as explained by Varian and other scholars (Brandenburger and Nalebuff, 1995; Dyer and Singh, 1998). New layers of complexity have been brought into the process of strategy creation by the pace and intensity of competition, as D'Aveni suggests (D'Aveni, 1994 and 2010): Creativity and differentiation are more difficult to sustain over time. In parallel, the customer-centricity effect of digitalization has also raised the need to better reflect on customers' participation in frameworks (Plé, Lecocq, Angot, 2010). In e-business and as analyzed by Amit and Zott (2001), the shift from fairly static business rules to overwhelming and constant change in patterns is fully part of the game: the sources of value creation in e-business should be seen as a set of interactions that together contribute to how transactions are actually performed. The business model is understood as a unifying unit of analysis that captures value creation from multiple sources, thus creating the conditions to better exploit business opportunities. The importance of novelty (as one of the four interdependent dimensions in the model by the authors) along with the 'opportunistic' view derived from the theory, embody the integration depicted above.

Among the recent trends in research, and in relation with our focus on competencies, we want to highlight the configurational perspective of the BM as an area for promising developments. Such view is illustrated by the RCOA model (Lecocq et al., 2006; Demil and Lecocq, 2008; Hellies-Hassid and Sabbah, 2008), which was further refined into the RCOV model (Casadesus-Masanell and Ricart, 2010; Demil and Lecocq, 2010). As briefly exemplified in section 1/ of this thesis, RCOV (for: Resources, Competencies, Organization and

Value proposition) integrates the competency brick further as a central component of the framework, along with its interrelations in the model. Compared to some other, well-known tools like the canvas by Osterwalder and Pigneur (2011), RCOV does not just rely on designing a BM representation. It combines parsimony as a theoretical requirement (few components integrated in model) with the integration of dynamic interactions between elements. Doing so, RCOV escapes one of the limitations of existing models that tend to represent interactions between components in a linear way. The RCOV view therefore allows a broader conceptual reach, enabling complex BM innovation to be sketched and captured. As an illustration, product or service offerings from the model may in turn become new resources, able to create new value propositions sustained by internal/external organization. RCOV is represented below in diagram 3/.

Diagram 3. The RCOV model (Demil and Lecocq, 2010)



As shown above, resources and competencies are central to the RCOV model. Through this component, the organization acquires and develops multiple resources and competencies, whether human, technological or financial-based. As a second component to the model, the organization ('O') reflects all choices affecting internal functions and the relations with other organizations (its value

network, including supplier, customers, competitors, regulators etc.). These choices are defining the cost base of operations (e.g. a decision to outsource part of the value chain like, for instance, customer services, will generate savings on payroll and allow more focus on new competencies, but create a need for new technological infrastructure and investment). Lastly, the value proposition component (V) comprises offerings in the broadest sense, that is, products and services that fulfill a specific function benefiting the organization's stakeholders. Value propositions – whether free or paid for – are generating the organization's revenues. Each of the RCOV's components unfolds into detailed categories, thus enabling full use of the model via implementation guidelines. Interestingly – and this is the reason for our in-depth view on RCOV within this thesis – the model looks at skills/competencies as the result of the main individual competencies, but also of the collective competencies that allow the organization to operate differently or more efficiently than competitors. These competencies may eventually lead to new, future value propositions in a dynamic way.

We have reflected on RCOV with an idea to onboard individual competencies into BM frameworks and potentially discuss outcomes from research using this frame. However RCOV also illustrates a key orientation in BM research towards dynamic modeling and further integration of key contributors to an organization's strategy. One the essential moves in BM thinking in recent years again originates from sprawling digital innovation. Authors have stressed the importance of users in the production of a good within open-source communities (Von Hippel and Von Krogh, 2003). In this specific context, 'producer' and 'consumer' roles appear as intertwined (Demil and Lecocq, 2006, quoted by Angot, Lecocq and Plé, 2010). What emerges from web-based technologies is an increased potential role for customers in the innovation process (Von Hippel, 2005). Business innovations such as crowd sourcing mean customers are now involved in the production process in novel ways, reinforcing the point above on roles being more intertwined than ever. Research on this topic is still scarce though (among notable contributions: Chanal and Caron-Fasan, 2008). Significant steps in dynamic modeling include Chesbrough's vision of 'open BMs' (2006), which embraces the ways through which organizations can increase value creation, by maintaining an open innovation process that includes its different partners – and its customers. Emerging from dynamic modeling is a

new focus on customers as being intrinsically part of the strategic and production processes. While customer participation to business is no new thing and has been conceptualized before (Dabholkar, 1990; Cermak, File and Prince, 1994; Hsieh and Yen, 2005; Lusch and Vargo, 2006; Vargo and Lusch, 2008), an important addition to BM theory is provided by Angot, Lecocq and Plé (2010) in their definition of CIBM (for: Customer Integrated Business Models). CIBM provides a frame to examine the nature of customer participation and its determinants, and theorize customer inputs further. In this model, and contrary to many other approaches, customers are not considered as a target of the value proposition: they belong to resources and competencies. CIBM is in fact drawing on the RCOV model we have described earlier, including customers as a resource for the organization – among other resources. As a consequence, the authors are not proposing a specific design for CIBM. Rather, they are specifying the nature of customer participation and of its interrelations with other components in the RCOV model. Looking at the customer as a resource means that: (1) Customers are the basis of the value proposition; (2) relevance of the value proposition enables further acquiring of new customers; (3) customer learning is onboarded into the organization; (4) the organization structures the socialization of customers; (5) offers are specified, produced and/or distributed by customers; (6) there is permanent learning and adaptation by the organization from the value propositions by customers. Describing and labeling the components and sets of interactions with customers, CIBM allows deeper and more reliable understanding of the new business models at play on the Internet. As an example, and as noted by the authors, eBay provides a pristine illustration of a full CIBM model, in the sense that: 'Customers are both the suppliers and the buyers of the products; they assess the individuals with whom they interact for a transaction (assessing the quality of the products) and they also create network externalities for the website as the more sellers/buyers are enrolled, the more new customers subscribe to buy or sell products. Thus in eBay the customer can be considered as a resource since he is both the basis of the value proposition in his own right (eBay sells access to a very large customer base) and a contributor as a producer of the value proposition (for instance, sellers make their own adverts, take pictures, assess independently the price of the product being sold and send the product themselves through the postal system)' (Angot J., Lecocq X. and Plé L., 2010, *M@n@gement* vol. 13 no. 4, p. 245).

Exemplifying CIBM further with web-based media publishing, players like the French website Mediapart or the American website The Correspondent may be considered as partial CIBM models: readers are contributors to content production and the valuing of key news, crowd sourcing enables the emergence of reader stories that are then structured and verified by the organization, editorial choices are made with respect to reader feedback, the reader community is funding the overall approach based on the differentiated content that it values in contrast to mainstream news production from the traditional players.

Business model innovation in times of disruption

In the section above, we have reflected on dynamic business modeling as an academic answer to the paramount change from digital. Taking competencies as a central feature in recent BM thinking, we have exemplified the move towards dynamic modeling and the onboarding of competencies using RCOV, and highlighting further developments with CIBM. Our intent in this section was to examine recent research and show how it is opening the way to a more complex yet more powerful conceptual reach, embracing broader elements and processes into frameworks. Within this vision, and as a summary, firms faced with transformation needs should revisit their existing business architecture by developing new value offerings, creating new value chain structures, establishing new revenue models and reconfiguring their resource base (Chesbrough, 2010; Mezger, 2014). Central to this view is the idea that new, unknown potentialities can be captured, sketched and established by changing the boundaries of traditional strategic thinking.

Business Model Innovation (BMI) is suggesting additional steps in the context of digitization. BMI specifically addresses the need for incumbent businesses to capture emerging opportunities from digitization: it focuses on transformational change within established firms that goes along with the creation of distinctive managerial capabilities (Berghman et al., 2006; Demil and Lecocq, 2010; Mezger, 2010). Needless to say, ability to build on BMI appears as critical to existing businesses, at a time technological change and market disruption prevail. Through BMI, researchers have been framing dynamic capabilities

further, as an academic response to empirical, environmental factors. More attention is being brought to a firm's resource base and its different components (Teece et al., 1997; Eisenhardt and Martin, 2000; Zahra et al., 2006). And BMI logically looks at competencies with renewed scrutiny, as a key component legacy businesses should consider when confronted to innovation from technology. Further development highlights the importance of competencies in the configuration of a business model (Amit and Zott, 2001; Morris et al., 2005; George and Bock, 2011). Resources and competencies have been further split between 'substantive' (Winter, 2003; Zahra et al., 2006) and 'operational level' (Jantunen et al., 2012), coming closer to the questions of execution and individual enactment. According to Mezger (2014): 'For established firms, BMI could be either the adaptation of its existing (core) business model or the development and introduction of a new business model adjacent to its core business' (Schneider and Spieth, 2013). Effectuating BMI requires a number of steps and considerations from incumbent businesses. As Mezger outlines (2014), 'The identification of opportunities for new business models is highly critical (Eppler et al., 2011) and requires 'strategic sensitivity' (Doz and Kosonen, 2010)' (Mezger F., 2014, R&D Management 44, 5, p. 431) Contrary to mainstream managerial focus and concerns within existing firms, new business models do not necessarily require technological or product innovation (Markides, 2006; Santos et al., 2009). More decisive to success is the capacity to 'break the rules of the game' (Markides, 1997) by questioning the status quo of an industry and challenging traditional views, in areas like customer segmentation, customer interests and established competition (Kim and Mauborgne, 1997, 1999; Jaworski et al., 2000). Another decisive path to innovation is to change BM components (value proposition, revenue model etc.) and reconfigure them – sometimes entirely (Chesbrough and Rosenbloom, 2002; Teece, 2010). Interestingly, some other ways of innovating tend to be overlooked in empirical settings: as Mezger underlines, imitating others is a viable approach for business model design (Buisson and Silberzahn, 2010; Casadesus-Masanell and Zhu, 2013). And Enkel and Mezger suggest that the identification of new BMs can be driven by cross-sector imitation (2013). Drawing further from the new, technology-driven environment, BMI allows more importance to learning and discovery-driven processes to flow in (Schneider and Spieth, 2013). Experimentation, as well as trial-and-error, is

valued to a higher extent (McGrath, 2010; Sosna et al., 2010). In this respect, the use of external knowledge and the ability to configure it as part of the resources and competencies is precious (Gebauer et al. 2012; Berghman et al., 2013). Referring to the previous section, this is one of the key outcomes from CIBM in the case of customer knowledge. Drawing on six case studies from the specialized publishing industry, Mezger (2014) suggests a capability-based conceptualization of BMI. His categorization of processes and routines for BMI in sampled firms brings three distinct dimensions of BM innovation capabilities into light: (1) identification of opportunities for new business models (following Eppler et al., 2011), (2) design of a new business model to address such opportunities, and (3) implementation of the new BM. In accordance with Teece (2007), Mezger relates these capabilities for BMI to three broader concepts: *sensing*, *seizing*, and *reconfiguring*. While *sensing* describes the ability to recognize change and thus identify opportunities, *seizing* embodies the way opportunities and threats are addressed and exploited, and *reconfiguring* focuses on the adaptation of a firm's resource base. For instance, *sensing* typically allows IT-based innovation to nurture new ideas, whether such innovation has already been deployed in-house, or whether it has been identified as promising through external links (to partners, suppliers and vendors). While some firms display a higher capability for developing insights and *sensing*, such capability is not sufficient in itself. Exploitation of new options is a determinant to successful BMI and comes as a second step. *Seizing* capabilities corresponds to the systematic reviewing and detailing of new ideas, with an aim to assess feasibility from a firm's underlying business configuration. Seizing includes a comprehensive view of the BM components impacted (e.g. types of offerings, pricing models, distribution channels, etc.), along with specific organizational arrangements for refined assessment (e.g. customer panels, focus groups, surveys etc.). Ultimately, *reconfiguring* refers to the capability to build new competencies and implement organizational renewal. As Mezger outlines, three major reconfiguring capabilities emerge from the case studies. The first one lies in a firm's ability to reconsider its value chain and look at vertical integration with a fresh eye. In this process, some traditional bricks of the value chain and their related competencies have to be eliminated (e.g. warehousing) while others need to be created (data hosting etc.). So that the second capability lies in evaluating and selecting new operational competencies required for BMI. This is

a key process with broad potential impact on the organization: the ability to conduct it in a careful and well-designed manner is a central feature, especially because uncertainty is often high and investment is required. The third capability for *reconfiguring* focuses on the sourcing of operational competencies and resources necessary to BMI implementation. Down the road from idea generation to BM execution, firms need to build up their resource base accordingly – meaning they have to look for the core competencies to be maintained internally, to choose what they need to outsource or partner for, to seek for the right individual competencies (hire new people with specific knowledge and skills, ensure in-house training to adapt existing competencies to the new requirements). Some decisive, 'meta' choices within the *reconfiguring* dimension of Mezger's model relate to the question of sourcing. For instance: should innovation be fueled by acquiring new ventures? Or should it built from existing business units? Should new BMs be exploited in separate entities on a start-up mode, with their own sourcing capability? Or should they diffuse along the whole organization? Answers to these questions together define a firm's ability to change substantive resources and competencies and exploit new business models successfully. As a final note on BMI, and following Mezger's view, we want to consider BMI as a distinct dynamic capability. As summarized by the author: 'BMI can be defined as a higher order capability to identify, design, and implement new business models.'

Synthesizing our stance on business models from the theory

This thesis uses business models as a theoretical background for two main reasons:

(1) The question of individual competencies in firms operating a digital shift contains an organizational dimension and relates to the implementation of strategy. We find BM theory to provide an appropriate frame and allow in-depth discussion along empirical outcomes.

(2) We intend to discriminate results from our field along the question of digital success: Which individual competencies matter for successful digital turnaround? Are there organizational factors found to favor the

transformation of individual competencies in digitally successful firms? And on the contrary, are there other factors hindering such shift in less successful firms? Using BMs in a designated field is a methodological answer to our research questions, with an aim to contrast results from research.

Referring to (1), and reflecting on BM theory, we have attempted to demonstrate the conceptual fit between BMs and our research topic, going from the broad definition of strategy to the integration of competencies in frameworks, and finally adopting a view on dynamic capabilities within business model innovation. We believe this approach is able to give individual competencies their *lettres de noblesse*, as a source of augmented capabilities for organizations going digital, and a key area to focus on through the implementation of BMI. While some researchers have criticized BMs on conceptual fuzziness and the narrowing down of strategy, we have reflected on the opposite movement in academic production: from limited, pre-determined vision to broader conceptual reach leading to a holistic view of innovation.

Summarizing our view, we are following Amit and Zott (2001), Casadesus-Masanell and Ricart, (2010), Chesbrough (2010) and Mezger (2014), considering business models as a firm's approach for value capture, delivery and creation – these activities being made possible by the underlying business architecture, serving a defined value proposition. We will be further looking at competencies as contributing to a firm's dynamic capabilities in BMI, as suggested by Mezger (2014). With respect to point (2), we intend to explain in more depth how we will use BMs for result discrimination in the methodological section of this manuscript.

4.4. SYNTHESIZING THE THEORETICAL PERSPECTIVE OF THIS RESEARCH

Setting the ground for this work, we have:

- Depicted main scholarly contributions on individual competencies as drawing primarily on sociology of practice and psychology, however

developing a rationalistic view of competency attributes that tends to limit the view in a disrupted environment,

- Proposed the use of Sandberg's phenomenographic approach as an answer to our research problem and questions. By informing the relation of people to work and potentially structuring the question of fit to organizational needs, we have found the interpretative stream of thought to provide a relevant frame for firms in need for adaptation,

- Clarified the constructs of individual competencies along knowledge and skills, reflecting on the conceptual differences and commonalities between individual competencies and organizational ones, and opening the way for further analysis and discussion at organizational level,

- Proposed to bring individual competencies into the unit level for further analysis and discussion, using the meso-construct of business models as a bridge,

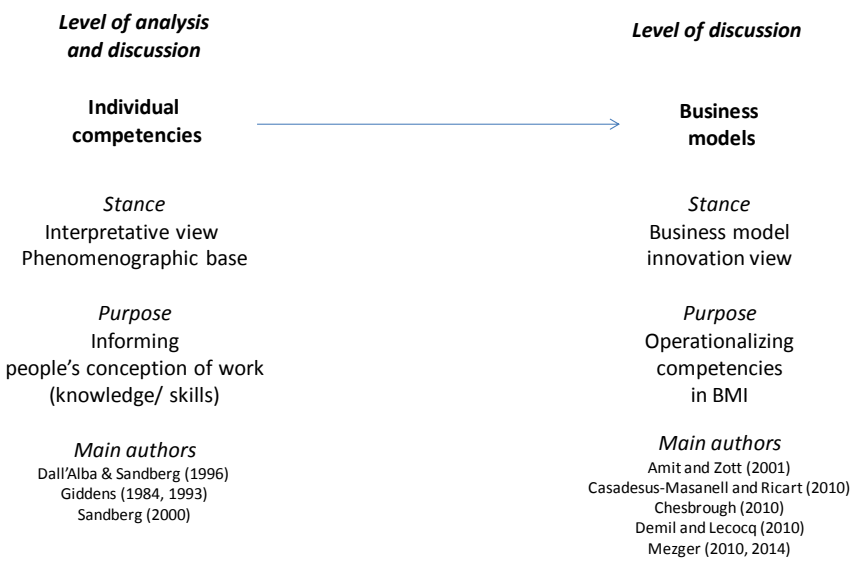
- Highlighted the interest of BMs for the purpose of strategy formulation and enactment, explaining the historical developments in research and the move towards integrative, dynamic modeling,

- Examined the question of competencies in BMs, more specifically looking at the RCOV model and at the dynamics from digital,

- Reflected on business model innovation as a theoretical field where competencies can be further integrated for higher digital adoption.

Following this theoretical flow we are proposing the representation below:

Diagram 4. Theoretical flow



Relying on these concepts and relations, we are providing a frame to draw lines and allow discussion between levels in a consistent way. Doing so, we are also leaving room open for empirical evidence to inform emerging phenomena, calling on the power of combinations.

As a final remark in this theoretical section, we want to highlight that the competency theory acknowledges that organizational competencies can be traced back to individual ones. However we are making ours the vision by Kallay (2012) that organizational competencies do not equal the simple sum of individual competencies, because not only individual competencies, but the way they are connected, affect them. Rather, they owe individual competencies a key tribute, by leveraging them into a collective configuration and dimension. This is what this thesis examines.

5. METHODOLOGY

5.1. RESEARCH DESIGN

In accordance with our theoretical flow and the nature of this research, our design focuses on the micro level, with an aim to:

- Detect and inform the individual competencies required for print work performance, before the shift to digital,

- Detect and inform the individual competencies required for digital work performance and categorize them (old/new),

- Establish a competency transformation model relying on the first-order concepts and the dimensions identified,,

- Identify the factors for higher competency integration and digital business performance among firms where individuals work,

- Contrast results between advanced and a minima digital firms.

As outlined in the abstract, we are examining journalism as a professional activity facing a shift in competency requirements (namely from print journalism to digital journalism), and news publishing as the related industry impacted by business model change. The rationale for choosing this profession and field is further detailed in the methodology section below. These choices determine the definition and use of specific constructs designated for our field. Practically, we will be using three constructs with a view to inform our conceptual model:

- *Individual Print Competencies* (IPCs): the competencies mobilized by journalists to perform tasks related to a print delivery mode, before the digital shift or in conjunction with it,

- *Individual Digital Competencies* (IDCs): the competencies mobilized by journalists to perform tasks related to digital,

- *Organizational Digital Competencies* (ODCs): the competencies found to sustain the integration of IDCs in firms.

Based on these constructs, we will:

- Build a sample of journalists based on relevant criteria,

- Identify the IDCs among individuals, categorizing them between IDCs reinterpreted from IPCs and new ones,

- Examine the nature and dynamics of competency transformation from print to digital, going from IPCs to IDCs,

- Suggest a transformation model,

- Contrast results according to the criteria from our sample,

- Contrast results in high/a minima digital firms, from a digital business model standpoint,

- Analyze ODCs as factors for high/low transformation of individual competencies.

The approach above is setting the frame for research activities, analysis and discussion and can be illustrated as follows in table 3/:

Table 3. Steps in research design

Step 1 *Identification and description of individual competencies*	**Step 2** *Crafting of a competency transformation model*	**Step 3** *Identification and description of the factors enhancing/hindering individual competency transformation in the corresponding firms*	**Step 4** *Discrimination of results and analysis*	**Step 5** *Discussion*
Identify and describe IPCs (competencies mobilized for print) Identify and describe IDCs (competencies mobilized for digital – old/new) Distinguish from IPCs	Identify the processes influencing competency transformation from data structure Craft model leading from IPCs to IDCs	Identify and list factors(+/-) from individual discourse Propose and describe ODCs from the identification work above	Contrast results between senior and digital natives, analyze and discuss Contrast results between high and low performing firms, analyze and discuss along the factors (+/-) and the ODCs from step 3	Discuss implications within selected organizational design (professional bureaucracy setting) Discuss implications within individual competency theory Discuss implications within business model innovation Open the way to further discussion within sociology of journalism
Individual level qualitative research Open-ended interviews with individuals from the core professional population			**Analysis from steps 1, 2 and 3**	**Theoretical additions and discussion**

Steps 1, 2 and 3 are relying on a single data collection process, from the informants we decided to recruit according to the criteria and categorization grid described in the experimental methodology section below (‘Operationalizing the concepts’). Outcomes corresponding to individual level competencies are isolated from organization-related material through discourse analysis. Step 4 consists in discriminating results from the different criteria and analyze the factors that are favoring or hindering competency transformation in the firms where individual work, along digital business model success. Broad implications are discussed through step 4in the different theoretical fields we have been selecting.

Organizational factors and competencies are identified empirically from the individual level. They are extracted from the contextual setting applying to individuals within the core population of journalists. In this model, competencies at individual and organizational levels are constituted by knowledge and skills,

as per the definition we are adopting from the theory. They are inferred from the individual level discourse. In order to contrast results along digital success, we are using digital business models in distinct classes from an existing taxonomy, as will be covered later.

In this design:

- The level of analysis is the individual level,

- Contextual findings from the organizational level are used to analyze micro-level outcomes and potentially leverage them into a broader discussion,

- The constructs to be informed are the sets of individual competencies,

- Firms contributing to discriminate results are identified within existing classes of business models, informing the taxonomy already in place.

In order to propose a model:

- Data is structured along first-order concepts, second-order themes and aggregate dimensions, in order to identify model components,

- IDCs are used as independent variables, they are described and inferred from discourse analysis along competency components (knowledge/skills),

- IPCs are used as control variables. Extraction relies on the same methodology as IDCs. The existence of IPCs among individuals from our sample should not be found to influence digital BM performance,

- ODCs are also described and inferred from discourse analysis among our informants while reflecting over their firm's competencies,

- The competency transformation model is inferred from the above. We are adopting a variance view leading from IPCs to IDCs.

- We are linking results to business model performance using the different classes of BMs in the taxonomy we are using.

Our conceptual model should allow to link individual competencies with organizational ones in contrasted firm settings extracted from the field. From a managerial point of view, it should provide answers to the question of practicality raised in section 1/ as part of the research problem. This will be pursued by identifying effective sets of competencies for digital. From a research point of view, we are expecting a first contribution to competency-based theory through better insight into emerging competencies at individual level, adding to the microfoundations of routines and capabilities. Secondly, we intend to link capabilities to firm level outcomes, BMI and competitive advantage, by distinguishing digitally advanced firms from a minima digital ones. Doing so, we are potentially addressing some of the weaknesses of routines and capabilities pinpointed by the 'Strategy-as-practice' school of thought – that also reflect into the managerial issue above: weak link to results, need to 'unpack' social and material conditions under which strategy work is carried out (adapted from Friesl, 2016).

Boundary conditions and assumptions are as follows:

- Homogeneity of results is ensured at industry level, hence bounded to the sector of new publishing, observed in France at the time of research,

- As a result, it is also bounded to the organizational design that is prominent in this sector, namely that of a professional bureaucracy. This is fully part of our research design, as a parameter bringing additional criticality and insight into our topic: our assumption is that professional bureaucracies are challenged to a higher extent by digital disruption than other configurations of organizations, as described earlier. Limitations apply to other configurations, as a consequence. Generalization may also

be affected by socio-cultural factors – although phenomena related to our problem may be observed in many world countries,

- We are only selecting journalists as the sample population for individual level. Other individual competencies from non-core populations (e.g. admin staff, graphic designers, marketing people, etc.) are not taken into account into the model, although they may contribute to an extended view on the topic.

5.2. FIELD OF RESEARCH

5.2.1. Choosing the professional bureaucracy setting

In order to provide adequate fit to the theoretical section above, we are choosing to conduct empirical, qualitative research in a selected organizational setting: that of a professional bureaucracy facing change (Mintzberg, 1980 and 1987 – Mintzberg and McHugh, 1985). Our perspective will be drawn from the core of the organization. A professional bureaucracy is understood as one of the five possible design configurations of organizations. As opposed to the machine bureaucracy, the professional bureaucracy allows coordination via the standardization of skills – and not the standardization of work. In order to function, it needs highly trained professionals in its operating core and considerable support staff to back them up.

We are specifically taking the view of the 'type E' in decentralization patterns according to Mintzberg (1980), where the operating core is the locus of the institution. In such design configuration, operations lie in the hands of an expert order. Power over decision making is delegated to the core which (implicitly or explicitly) drives the business game. The core tends to extend its power by informally integrating the key functions that help sustain its role. Some other parts of the organization, like the strategic apex and the middle line, are relatively less developed and empowered. As further described by Mintzberg, the organization surrenders a good deal of its power not only to the professionals

themselves but also to the associations and institutions that select and train them in the first place. Taking this perspective therefore requires insight into the professional education and institutional representations of individuals, to provide insight on the socio-material constituents of the bureaucracy.

We see four major reasons to choose this setting:

(1) The lack of academic contributions devoted to this configuration today is obvious, while there is higher need for practicality in renewed environmental conditions. Evidence is provided by recent managerial debates: they are popping up again from field, around the question of the adequate competency fit to organizational challenges. New streams of thinking are emerging from inside the corporation. Companies are taking a fresh look at human capital in general and competencies in particular. While acknowledging the need to redefine precisely what core competencies are made of, HR Directors are also considering soft skills and adaptive ability as a performance driver, as opposed to the technical expertise of the core professionals. Not only are they valuing soft skills to a higher degree. They are also changing their view of what should remain in the core and what should be outsourced, taking greater care to reengineering capabilities and not just expert knowledge. This brings contemporary developments into the core competency field, making Mintzberg's question from 1981: 'Organization design: fashion or fit?' even more relevant today.

(2) As a configuration, professional bureaucracies are commonly found today in a wide variety of sectors, from education to health, service firms to manufacturing, public to private: evidence from new core competency arrangements within this configuration matters in the field. In addition, the competency challenge is of critical importance to sustain expert orders at the heart of the configuration: technology is reconsidering the value of the inherited expertise itself. Embracing the perspective of a professional bureaucracy should logically create conditions for a high stretch over the competency issue, helping to highlight research outcomes.

(3) Individual competencies in such organizations are a major driver of business performance. As a consequence, they are extremely developed – they form the bedrock of the expert order, whose end role is to sustain competitive advantage. As such, they have a direct impact on the core competencies. From a methodological point of view, observing how competencies shape and evolve among professional bureaucracies confronted to the technological shift is creating higher relevance: we are creating a borderline case for the role of individual competencies in business model change.

In addition to the above, this specific organization design is bringing criticality to the table. It is found to create additional obstacles to change, therefore stretching conditions to a high level:

- Recent research has shown that innovation in professional bureaucracies is difficult to nurture. Emerging forms of cooperation and knowledge sharing, such as communities of practice, are actually hindered within this organization form (Harvey et al., 2013). This is a major obstacle on the road to digitalization, and a pitfall to the previous findings by Amin & Cohendet (2004) that radical innovation occurs through engagement and enactment and through the alignment of elements in a new script of organizing and acting.

- Transition roles from other parts of the organization, and more specifically from the middle line, are lowered in the specific setting of a professional bureaucracy, as shown by Currie & Procter (2005). The role of the middle line in new strategy enactment is facing considerable conflicts. Although these conflicts can be mediated, strategic contribution is inhibited by the power of the operating core.

5.2.2. The professional bureaucracy of journalism

We are specifically building on the case of journalists in news publishing. Drawing on Mintzberg, we want to insist on four main factors that jointly contribute to making the situation of press publishing highly relevant to the phenomena we are documenting:

- Strong institutional and social identity – it is embedded in the historical definition of journalism in western economies. In France (limiting our scope to the XXth century) images of journalism in action were brought to the public by Gaston Leroux's character Rouletabille in literature as early as the 1900s. Rouletabille (literally: "Roll-your-pen") has the investigative mindset, skills and competencies to solve enigmas (Le Mystère de la Chambre Jaune, 1907). He is a curious, cunning and pragmatic young reporter – both positively and modestly portrayed. In the United States, widespread heroic fantasy culture builds on the (hidden) power of some well known, somewhat schizophrenic journalistic icons as well. In Superman's first appearances in the mid-thirties, Clark Kent is a reporter at the Daily Planet, fighting editorial hierarchy to let truth emerge about his heroic alter ego. Personal commitment to veracity and the enlightenment of public opinion is a central role endorsed by Clark: he is as brave as a journalist as when flying over the New York skyline, although not benefiting from the same capabilities and tormented by a stubborn chief editor. It is worth mentioning that the sociology of journalistic practice brings increased meaning onto this specific context. In addition, entanglement of journalistic competencies into organizational identity appears as particularly strong in the sector (Albert and Whetten, 1985; Hatch and Schultz 1997; Whetten 2006).

- Expert led internal social order - With respect to the above, journals and magazines bring the pristine example of what comes into the design of organizations as the "type E" in decentralization patterns: the operating core in the press publishing industry is the locus of the institution. It lies in the hands of journalists as an expert order. Power over decision

making is delegated to the core. In parallel, the operating core extends its power by informally integrating a number of functions that help sustain its role (photographers, editorial staff, IT support, archives, etc.).

- Long lasting stability prior to disruption - Newspapers and magazines have benefited from a relatively stable environment until Internet emerged (in France's consumer markets, digital services appeared in the mid-90s and started to spread in years 1998 to 2000). The technical system in press publishing has been highly regulating in the activities of the core operators, also due to relative technological stability brought by continuous improvement. The higher the periodicity, the higher regulation has been applied via fixed technical arrangements: in daily publishing, this factor is weighted higher than in weekly publishing which in turn is weighted higher than among monthlies.

- Disruption affecting core capabilities to unprecedented levels - The prevailing, historical model of news publishing is linked to a production mode. It is taken into unknown territories over a limited period of time. Meanwhile new capabilities are brought to the organization through ICT, with major customer benefits. All boundaries and processes are redefined, while historical task completion no longer applies. As a design parameter, job specialization applying to the profession of journalism is challenged like never before.

Providing a few historical milestones to what precedes and looking at today's technological disruption, it is worth noting that among French newspapers, the first direct engraving of a gravure cylinder from digital data was completed in 1981. It took another fifteen years before computer-to-plate (CTP) – the technology allowing the direct engraving of printing plates from a computer – appeared in 1995. Coupled with the adoption of new publishing software in newsrooms, such as Xpress, Adobe Illustrator and Indesign, CTP significantly changed workflows, eliminating some of the intermediary steps as well as the technical supporting staff once needed in the production chain. Simultaneously, 1995-1996 were the years when major French dailies started opening their websites. The daily newspaper Libération was first in May 2015, closely

followed by a regional title from Eastern France, Les Dernières Nouvelles d'Alsace (September 1995). Many others came next over a short period of time: Le Monde (December 1995), Le Figaro (Fall 1996), etc. Interestingly most websites were pure online transcripts of the print version (either downloadable via PDF or displaying the main features of the next morning's paper edition). No dedicated news teams were actually set up for online at that time. 1998-2005 were the years when French news publishers started investigating online business models. In 2000, the UK-headquartered magazine publisher Emap (which had become the number three press publisher in France after it had acquired major consumer titles) linked up with the French internet service provider Wanadoo in a joint venture. The objective was to create three websites dedicated to celebrity lifestyle, cars and health and beauty – along with special interest sites linked to the Emap magazine brands in areas like gardening, boating, photography etc. While most publishers were aiming at additional, online-based ad revenue in these years the disappointing ad sales coupled with the shift of paper readers to online made it necessary for them to look for alternative digital business models and draw revenue from their online audience. In the US, the Wall Street Journal was first to set up a 'hard paywall' strategy (1996) – meaning content was only accessible to paying subscribers of the digital version. This business model has been consistently followed by the WSJ since. It has been heavily scrutinized by publishers, with intense debate along its two main consequences: (1) a decline in organic referencing by Google as free content is not available anymore, leading to a drop in the total online audience, and (2), a rise in online subscriptions from a selected, demanding public in search of valuable, exclusive information. From 2011 on, news publishers started engaging into a variety of paywall strategies derived from the 'hard paywall' experiment by the WSJ. The majority of them adopted a 'soft paywall' approach – which is best embodied by the New York Times 'metered' paywall. In 2011, the NYT allowed online readers to access twenty news articles for free on a monthly base, before restricting access via an online subscription. The number of free articles was then reduced to ten per month. In this model, organic referencing is still ensured and free content can be shared on social networks while regular readers are enticed to pay for full access. By early 2018, the NYT counted some 2.2 million online subscribers, generating $340 million in sales. Since the metered paywall was launched in 2011, the NYT online subscription

revenue grew by an impressive +46% average annual rate. In France, several publishers followed this strategy, with the referential business daily Les Echos opening the way in 2012. The approach by Les Echos proved more restrictive however, with just five articles accessible for free each month before content is paywalled (this number was even brought down to two articles in 2017). Alternatives to the metered paywall business model include a combined approach: keeping a proportion of the news accessible to all, while premium content is paywalled. This strategy (also known as 'freemium') has been adopted by a number of quality newspapers in France, such as Le Monde or Le Figaro. In 2017, Le Monde boasted 160,000 online subscribers, a +44% increase compared to 2016. It is worth noting that some news publishers chose not to follow this route and consequently keep all news content available to all. British daily The Guardian provides an illustration of this strategy, on the claim that quality information should remain accessible to everyone on the Internet. In November 2018 and three years after it started asking readers for personal financial support, The Guardian announced it had just passed the one million contributors threshold to its online edition. Editor-in-Chief Katharine Viner adds in an interview: 'The Guardian is on a path to being sustainable. We hope to break even by April 2019'. In France, this voluntary contribution and subscription model has been mostly adopted by pure players, such as the independent news site Mediapart. While the Mediapart numbers do not equal those of traditional news publishers, this start up founded in 2008 counted 140,000 subscribers – paying €11 each month on average – ten years later. Mediapart broke even as early as 2011. In 2017, net profit reached €2.5 million, for total sales of €13.6 million, making it one of the most prominent success stories in the French online news publishing landscape. Looking at recent trends in online business model experimentation by news publishers, models seem to stabilize along these two axes: paywalls on the one hand, voluntary subscriptions and funding on the other hand.

Drawing on the joint factors above and describing the shift in technology and business models in the last twenty years, we have attemptedly highlighted what makes journalism relevant to our study of competencies in a massive digitization context. As a final note into this section, we also want to insist on training and indoctrination as an entry point into the competency stretch issue. As Mintzberg

outlines: ‘training and indoctrination is the design parameter by which skills and knowledge are standardized through extensive educational programs, usually outside the organization and before the individual begins his job (particularly in the case of training). This is a key design parameter in all work that is professional’ (Mintzberg H., 1980, *Management Science*, Vol. 26. No.3. p. 325).

By building on the case of news publishing, we are deliberately bringing additional empirical criticality into our research. In order to explain why, we need to describe journalism in more depth.

5.2.3. Journalism as a profession

Attempting to describe journalism as a profession, we want to briefly highlight the sociological dimension it carries by providing a few historical milestones, before examining how journalism is structured today. Journalism is not a profession like any other. Taking it as an object for research implies conveying representations about its role – in three different ways: as a researcher first, because ideas of what journalism is about certainly influence the way we have been structuring data and framing competencies in this research. Having worked in the press industry for some twenty years means I have onboarded into research with personal biases. While I have tried to maintain neutrality against the facts and keep a fresh eye, obviously subjectivity cannot be eliminated from this work. Secondly, strong representations are carried by journalists themselves about their own professional and social role. Interviewing journalists is an insightful but rather strange exercise, first because they are natural masters in interviewing techniques themselves, and also because they can be quite apologetic when it comes to their profession and they are prone to share their convictions rather than facts. Thirdly, there is permanent interaction between the profession and the public with respect to its role in society. So that representations are entwined and evolving constantly as public debate unfolds. Because all these factors cannot be fully neutralized, we find it useful to provide a few guidelines into the sociological and professional dimensions of our field.

While various forms of journalism have developed way before (from the Middle Ages on) contemporary journalism takes its roots in the industrial revolution. A

foundational approach to the sociology of journalism is provided by the writings of Max Weber in the early XXth century (Weber, 1909: Preliminary report on a proposed survey for the sociology of the press). As stated by Dickinson (2013): 'For Max Weber the goal of social science was to improve our knowledge of cultural problems. The newspaper industry at the turn of the XIXth century was for him 'one of the great cultural problems of the present' (Weber, 1998: 111). Indeed, and as shown by Wiener (2011), the period ranging from the 1830s to 1914 had been revolutionary for the British news industry (Note: and in other western countries as well). Dickinson describes it further: 'Printing technology had advanced so that newspapers could be produced on a mass scale. By the end of the XIXth century, the mass circulation press became the dominant reading-matter for the expanding urban class' (Dickinson R., 2013, *Max Weber Studies*, 13 (2), p. 199). Hampton (2004) highlights the coexistence and transition between the 'traditional press' and the 'mass market' press at that time, depicting the distinct values that were shaping journalism in these contrasted settings. As Dickinson explains: '[Hampton] identifies a claim to an 'educative' role in the traditional press, the prevailing liberal view that newspapers should act as agents for public 'improvement', a forum for public discussion of matters of the moment, and a vehicle for 'right' thinking to be conveyed to a wide, predominantly working-class readership. Gradually, 'high journalism' and the emphasis on 'opinion', Hampton argues, gave way via an interest in facts and the reporting of them for mass appeal, to the beginning of a notion of 'representation' and the idea that the press should reflect the public's interests and opinions rather than attempt to shape them' (Dickinson R., 2013, *Max Weber Studies*, 13 (2), p. 201). The move was driven by economic forces and the structuring of new capitalism in the press, entailing a significant power shift. As Weber writes (1910): 'In all modern states, the principle seems to have held good that journalists are losing political influence, while capitalist press magnates, such as lord Northcliffe, are increasingly gaining it' (from: Dickinson R., 2013, *Max Weber Studies*, 13 (2), p. 201). Attempting to sketch the elements structuring the changing role of journalists in society during the late XIXth, early XXth century, we are suggesting the following:

Diagram 5. Sociological move of journalism in the late XIXth, early XXth century

The depth and magnitude of the changes briefly depicted above via the literature were major concerns to Weber in the shaping of public opinion. The emergence of press barons raised questions on their ideological influence. In parallel, Weber witnessed the individualization at play in society, along with the decline of old forms of political consciousness.

In many ways, these two phenomena (individualization/decline in political consciousness) appear as a continuum – they are still vivid in today's context. They have led journalists to think of their role in democratic societies and propose sets of definitions to structure the profession according to a body of practice. As an illustration, the American Press Institute (API) defines journalism as '[…] the activity of gathering, assessing, creating, and presenting news and information. It is also the product of these activities. Journalism can be distinguished from other activities and products by certain identifiable characteristics and practices. These elements not only separate journalism from other forms of communication, they are what make it indispensable to democratic societies. History reveals that the more democratic a society, the more news and information it tends to have.' Another definition is provided by the French National Union of Journalists (SNJ) in its code of ethics (last revision from 2011): 'Journalism aims at searching for, verifying, contextualizing, prioritizing, designing, commenting and publishing quality information; it cannot be confused with communication. The exercise of journalism requires time and specific means, whatever the media. No ethic rules can be enforced without the proper material conditions that they require'.

Although some of the extracts above may sound like manifestos, Kovach & Rosenstiel (2007) identify the following elements from their experience and observation as essential principles and practices of journalism:

1) Journalism's first obligation is to the truth
2) Its first loyalty is to citizens
3) Its essence is a discipline of verification
4) Its practitioners must maintain an independence from those they cover
5) It must serve as an independent monitor of power
6) It must provide a forum for public criticism and compromise
7) It must strive to keep the significant interesting and relevant
8) It must keep the news comprehensive and proportional
9) Its practitioners must be allowed to exercise their personal conscience
10) Citizens, too, have rights and responsibilities when it comes to the news

As introduced at the beginning of this section, taking journalism and journalists as an object for research in the perspective of Mintzberg requires prior considerations over the nature of the object we are choosing. There is contradictory debate among scholars and in society as well, as to whether journalism forms a profession. The sprawling of social media, as a result of the technological shift we are observing, is precisely creating renewed strain and focus on this underlying question. In the 1970s already, American journalist and political activist Sam Smith was advocating in the DC Gazette that 'Journalism is not a Profession'. This is a pervasive stream of thinking, which also relates to the claim for freedom from journalists themselves. In a contemporary setting, the same message was carried in 2013 by Greenhunt – columnist for the San Diego Union-Tribune – arguing that 'Journalism is an act, not a profession'.

While the API reckons that: 'journalism can be produced by anyone', the association also adds that: 'at the same time, merely engaging in journalistic-like activity – snapping a cell-phone picture at the scene of a fire or creating a blog site for news and comment – does not by itself produce a journalistic product.

Though it can and sometimes does, there is a distinction between the act of journalism and the end result. The journalist places the public good above all else and uses certain methods – the foundation of which is a discipline of verification – to gather and assess what he or she finds.'

Taking an academic approach, we agree with Godkin in asserting that 'a key to defining a profession […] is no doubt establishing an understanding of what professional practice means in terms of knowledge and competency' (Godkin P., 2008, *Canadian Journal of Media Studies*, Vol. 4, (1), p. 109). Following this path, and although there is no body of theoretical knowledge considered vital to the practice of journalism, the multiple, convergent and reflexive material from the institutions quoted above suggest that journalism structures as a profession. The high level of interpretation around the principles and good practice required in the case of journalism certainly outlines a difference with 'regulated' professions (namely doctors, chartered accountants, lawyers etc.). No centralized institution sets the rules, including and excluding individuals in and from practice. Still the absence of a formal licensing does not mean there is no accountability or discipline among journalists (Newton et al., 2004).

Applying to journalism, Godkin advocates for a community of practice, using Wenger's concept of CoP from 2006. However this middle way appears as limiting, especially because it does not expand the vision to the social purpose of journalism. Pushing the argument further, we are calling on the importance of journalism schools in the transformation of journalism into a profession (Meyer, 2002). We are also taking the approach of Davis, as developed in the Journal of Mass Media Ethics in 2004, showing that journalistic ethics can be placed within a broader, general theory of professional ethics. In accordance with Meyer (2010), we are emphasizing on the existence of strong, core journalistic values and on the interplay of theory, conceptual analysis and practice. This conjunction builds the case for journalism as a profession in the fullest sense of the word. It also reflects a conception of work, thus calling on our vision of competencies at individual level.

Linking this back to sociology, it is clear that making sense of news through writing is a social activity that has created an even higher professional identity.

It is fully part of a reflexive, constructed reality from a historical and organizational perspective. As pointed by Raviola & Norbäck (2013), drawing on the case of Il Sole 24 Ore, an Italian newspaper confronted to change: 'the institutional work of journalists is performed by means of both old and new technologies; if new technologies trigger institutional work by proposing new actions that need to be meaningful by the journalists, old technology functions as a law book where the institution of the business news in inscribed' (Raviola E., Norbäck M., *Organization Studies*, 2013, Vol. 34 Issue 8, p. 1171).We are inferring that technology is not the unique driver for acti*vating new jou*rnalistic competencies. Rather, we want to look at the global configuration of work in the case at hand. We are following Bhatt (2001) in asserting that routines set around technological systems are important in developing organizational capabilities, but that technologies do not determine capabilities. According to Bhatt, it is the pattern of interaction between techniques, technology, and people that determine organizational capabilities.

5.3. SAMPLING AND EXPERIMENTAL DESIGN

We are relying on an inductive methodology based on a qualitative, interpretative approach. The need to access the subjective experience of professionals confronted to new competency requirements makes it fairly natural to collect data through non directive, semi-structured interviews. We decided to collect individual experience relating to a sufficient period of time – so as to obtain in depth, meaningful, lived stories. By applying these conditions, we were able to contrast the Individual Digital Competencies (IDCs) from the competencies mobilized to perform tasks in the 'old', historical industry model inherited from the legacy. As explained above, we chose to study the profession of journalism in a designated sector, namely news publishing. In order to facilitate access to field, we decided to limit settings to news publishing in France, where we have good connections for research. Doing so, we provided homogeneity of results throughout the sample. Additional consistency was been obtained by limiting our field to written journalism. Our deliberate choice was to exclude broadcast TV and radio from our sampling method. Some journalists we

met happened to work for both journals and broadcast TV – however the recruitment criteria applied to integrate them in the sample was based on their writing activity.

Four journalists were met between July and November 2014 as part of an exploratory phase. This initial phase was exploited to extract key opinions on the potential factors favoring or hindering change among the professional population. This helped circle potential themes and prepare our open-ended questionnaire (presented in appendix a/). Exploratory interviews lasted between 45 and 120 minutes. We privileged written feedback using full transcripts to map informants' views based on their 'stories'. Details regarding this initial exploratory sample are featured in table 4/.

Table 4. Exploratory sample details

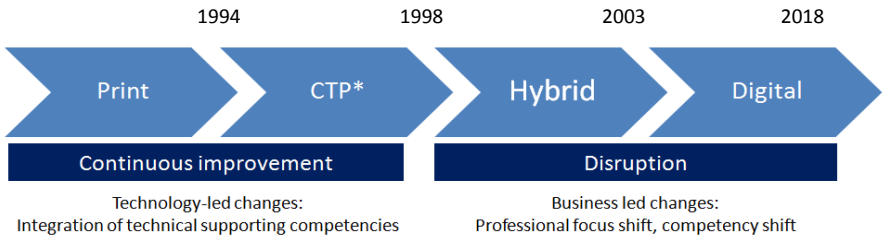
Name	Position	Date
Daniel	Director of think tank on digital publishing	07/28/2014
Christian	Free lancer – automotive press	09/23/2014
Olivier	CEO/ founder of mid-sized CMS* service provider	10/16/2014
François	Former Editor in Chief – TV guide	11/04/2014

*Content Management Systems

The exploratory phase was used to prepare the open-ended questionnaire. This questionnaire is displayed in appendix B/. We then built two separate samples of journalists, one made of professionals working for digitally advanced firms with respect to digital adoption criteria, and one made of people working for a minima digital (to be detailed further). We collected data until no additional content category was emerging from discourse analysis. Each sample was subdivided into two categories of informants: senior journalists and digital

natives. Due to the purpose of this research (collect data referring to a sufficient period of time, thus reflect on long-term, competency transformation phenomena, analyze and oppose sets of competencies mobilized to perform 'old' job requirements vs. digital ones), we chose to sample individuals able to reflect on a fifteen year+ professional experience and contrast results with younger ones. Doing so, we were been able both to inform the transformation of 'old' competencies and to confirm the validity of the new competencies we found, by confronting the outcomes from senior and younger professionals. The period we examined is described in diagram 6/ below, and the sampling method in diagram 7/.

Diagram 6. **Temporal perspective**



* CTP: Computer-to-Plate (transitory technology that removed some pre-press steps from the production flow)

Sample 1: Individuals recruited within the core population of journalists, working for digitally advanced firms:

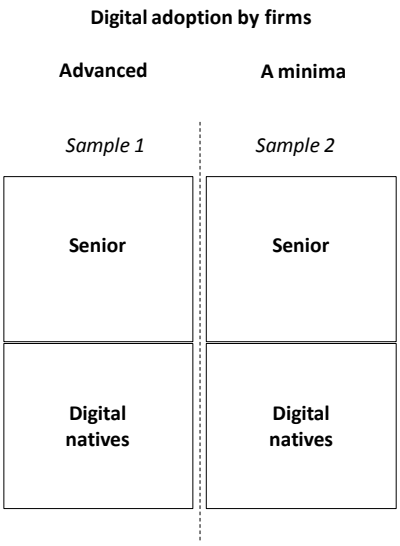
- Working for the following types of organizations: newspapers, magazines and pure players (broadcast TV and radio excluded),

- Producing news in specialized interest and/or general interest, in different content categories (political, economic, TV guides, etc.),

- Divided between two age groups: professional experience of fifteen years+, and digital natives.

Sample 2: same criteria and subdivision, for journalists in a minima digital firms.

Diagram 7. Sampling method



5.4. DATA COLLECTION

Outcomes from interviews were obtained by coding/ reducing interview transcriptions to inform competencies. Full transcripts were used to identify themes through the verbatim and categorize them: content related to individual competencies was isolated from organizational level outcomes. Individual level competencies were inferred from the description of tasks, and of the knowledge and skills required to perform work, as reflected by the informants.

As examples:

- *Individual Print Competencies:* 'Sourcing' was inferred as a competency, from the combination of: knowing the actors, being able to establish the

links between them and knowing anterior facts. This was extracted from the occurrences through discourse analysis.

- *Individual Digital Competencies:* 'Social networking' was inferred as a reconfigured competency for digital from the combination of: community management, using designated social networks (Facebook, Twitter, LinkedIn, Snapchat, etc.) to source the news, get in touch with people, post, promote content, increase reach, share information etc.

- *Organizational Digital Competencies:* 'Online-first processing' was inferred as an ODC from the occurrences in the verbatim mentioning the implementation of designated tools across news desks (content management systems like Swing) and detailing delivery modes, priorities and temporalities for web-based content and paper products.

The completion process

Interviews were conducted over a first two-month period in September and October 2016, and a five-month period from October 2017 to March 2018, using the semi-structured questionnaire displayed in appendix and privileging a storytelling mode. In order to create intimacy with informants, we asked each person to reflect first on how he/she became a journalist and why. Further in-depth investigation focused on competency acquisition processes, description of the competencies mobilized to perform the job prior to disruption (when relevant, i.e. for senior journalists), and detailed reflection over the competencies displayed for digital (all informants). The side stories relating to competency acquisition processes, personal challenges, issues relating to the organization, as well as the vision entailed from a professional identity perspective (deontological aspects, personal thoughts about the future of the corporation, prospective and macro-economic considerations) were also captured.

Interviews lasted at least 60 minutes, with an average length of 90 minutes. The maximum length was 130 minutes. All interviews were recorded and personal notes were added to keep track of the situational aspects and emotional

expressions (passion, anxiety, concern, enthusiasm, boredom, etc.). Potential second-order themes were also underpinned on the fly during the interviews then re-used for the next ones. Full transcripts were made. We then selected the sections for transcriptions from the first order data already identified, looking for consistency and narrowing down the verbatim for coding. New themes emerging from each new interview were added in the transcription for further coding.

As interviews were conducted over two distinct periods in time, content categories and data structure were inferred from the first set of informants, then adjusted according to outcomes from the second set. This means that some categories were changed, and that some of the corresponding labels were also modified as field research was conducted. More specifically, most interviews with digital native journalists took place during the second period in time, so that outcomes from digital natives were confronted to those of senior informants at the end of field research, leading to some revisions in competency identification and labeling.

Table 5. Sample details

Informant	Job position (current)	Sector	Age	Digital native Y/N
Jean-François M.	Partner	Content production agency and consulting business	53	N
Laurent B.	Editor in Chief	National daily newspaper and associated website	32	Y
Emmanuel P.	Managing Editor	B to B news website	45	N
Anne K.	Chief Editor, social media	Daily newspaper and website	n/a	N
Emmanuel J.	Journalist	Free lancer for news publishers, brands and pure players	48	N
Géraldine V.	Editor in Chief	Professional weekly and associated services	n/a	N
Henri V.	Chief Editor and editorialist political section	National daily newspaper	56	N
Charles D.S.S.	Journalist	National daily newspaper and associated website	46	N
Arnaud L.G.	Chief editor, supplements and special operations	Business daily newspaper	54	N
Paul A.	Editor in Chief	National news website	30	Y
Anthony M.	Journalist	News magazine and associated websites	30	Y
Simon C.	Journalist	News magazine and associated websites	28	Y

As an additional methodological note, we want to flag the fact that two senior informants, Jean-François M. and Emmanuel J. were recruited according to their experience within weekly TV guides. However their current position has changed since. Full transcripts were made and all quotes were coded, whether extracted from their experience with TV guides or from their other experience. As they predominantly reflected on the TV guide organization they have been working for, we chose to categorize them in a minima digital firms, according to the criteria from the taxonomy applying to this firm.

Lastly, we also want to flag that only two of our informants are female. This is both a consequence of sampling as we used the snowball method to access new contacts and of gender inequality in the general interest news sector. This may come as a bias when analyzing results, however to chose not to apply a quota to our sample as we are reflecting on empirical phenomena and the discrimination of competencies according to gender is not part of our research design.

Environmental outcomes

From an environmental perspective, we have found the propensity of informants to reflect on their personal experience with the topic very high. The intensity of change, as well as the urgency they placed in adapting personally to a demanding workplace may provide an explanation. The very nature of the profession we chose to explore also allowed rich content to emerge. Lastly, we found storytelling was the dominant mode spontaneously used by informants, and an obvious way for them to share what they had been experiencing and thinking over the digital reconfiguration period. In other words: professionals were happy to tell their story. As some of them said, they had never been asked before (by their own management) to reflect on how they personally managed to adjust their competencies.

On another note, informants' current positions do not necessary reflect their major outputs during interviews – especially in the case of senior professionals. As an illustration, Jean-François's contribution proved extremely focused on print daily news, where he has acquired most of his experience as a journalist

and an editor in chief. As a result, and although reflecting on the digital shift he has been living, his discourse was embedded into his personal achievements within daily news production teams. This helped contrasting discourse elements with other individual informants.

The majority of interviews took place on site, thus helping the understanding of contextual, environmental factors, such as atmosphere at the news desk, type of professional population engaging into daily work or other informal details (space configuration, open plan vs. cubicles, overall atmosphere at the news desk). Informants accepted the idea of walking through offices and showing us around easily. In some cases, meeting rooms were used, as newsrooms were too busy to allow one-on-one in depth talk, or because journalists frequently had no closed personal space. Recording proved easy and respondents showed high acceptance, especially as they are well versed in interviewing techniques themselves to perform their own job – as two of them reflected. Globally, the professional bias of journalists – i.e. their willingness and proficiency in delivering in depth information along with the side stories – proved very helpful. Very few details were flagged as being 'off the record', even though informants may have expressed controversial personal views on their own organizations.

We started by capturing the initial concepts from the transcripts, looking for both common themes and salient, unexpected discourse emerging from single interviews – that may be categorized as environment-related, or context-related (linked to the specific workflow informants are embedded in, to the tailored tools they are using, or the economic environment they are facing in their organization or work). Particular interest and attention was given to emotional aspects: the moments when passion, anger or disappointment was roughly expressed. This very simple, obvious way to stress outcomes on personal professional matters proved highly informative. Most of the journalists we met are extroverts, whose personal opinions, beliefs and experience had a revealing power over the phenomena we were investigating. Some of them reflected on the vocational aspect of their job. Most of them told us they always wanted to be a journalist, or that they had this idea as a kid. Others told us they did not know but immediately loved it after a first, incidental experience.

Data collection activities

First order concepts were listed on this base with open coding. They are reflected in the data analysis section below. We started grouping them in broader categories corresponding to second order themes, as shown in the data analysis section below. We then inferred aggregate dimensions from these themes, starting to identify and categorize competencies from the themes. Inherited competencies from print were isolated, based on discourse analysis from non digital native informants. Competencies for digital were also roughly listed with provisory labels, then they were further refined. A practical difficulty emerged while identifying competencies, which is precisely at the heart of the empirical problem we are aiming to address: informants seldom reflected spontaneously over the competencies they are mobilizing. Rather, they explained what they do. Whether the tasks they are completing require a specific competency is something that needed second thoughts most of the time. Also, they were able to bring in depth information on the surrounding environment and organization, as well as precious historical details. How their core professional abilities are affected by digital however proved conceptually difficult to state. As Richard said reflecting on the content he produces as a freelancer for a marketing website: "Now that I think of it, that's journalism too, the news is real, I do the fact-checking. After all, the news I'm producing for them, well it could be published by the press. It's also some kind of journalism."

5.5. OPERATIONALIZING THE CONCEPTS

Our research design implies:

- Drawing an extensive list of the IPCs found through discourse analysis and labeling them (IPC 1, IPC 2, etc.),

- Going through the same process with IDCs and categorizing them between new and reconfigured (new IDC 1, new IDC 2 etc., reconfigured IDC 1, reconfigured IDC 2 etc.),

- Identifying the enabling organizational factors in digitally successful firms,

- Inferring organizational digital competencies (ODCs) from these factors,

- Relating the existence/absence of the ODCs to digital business model performance,

- Doing so, being able to discuss organizational competencies that are found congruent with digital BM success and favoring individual competency transformation.

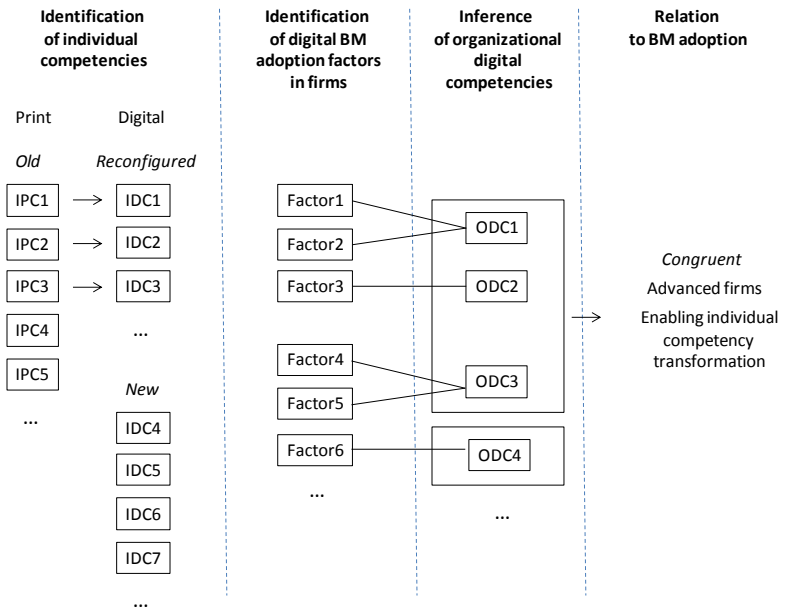
Clarifying our concepts in more detail, we are distinguishing new IDCs from reconfigured IDCs using the following definitions:

- New IDCs: Competencies required for digital journalism that were not necessary in the former print production process,

- Reconfigured IDCs: Competencies required for digital journalism that already existed in the former print production process, but have been altered to fit the online production mode and needs. Reconfigured IDCs sustain the same needs and goals as the corresponding IPCs, however the underlying tasks differ. In order to be maintained for online, these competencies require adjustment to the new context.

Sketching the operationalizing of our concepts and constructs through these phases, we are suggesting the following representation (diagram 8/):

Diagram 8. Describing, listing and grouping the constructs



As shown above, we need to identify individual digital competencies first and differentiate them between new and reconfigured. We then intend to isolate the factors that favor digital adoption in firms, and infer organizational competencies in advanced digital firms, as opposed to laggards. From there, we will examine congruent sets of organizational competencies with respect to digital BM adoption, and see how these sets are potentially leveraging individual competency transformation. In order to contrast results of digitally advanced firms with a minima digital ones, we have been relying on the taxonomy established by Benghozi and Lyubareva as presented in their 2014 article[7]. Doing so, we were able to inform our model and discriminate results. 149 websites from newspapers, magazine publishers and pure online news publishers were analyzed by Benghozi and Lyubareva, selected on the basis of the French OJD regulatory body – which audits circulation and audience among publishers. The empirical study uses descriptors of BM classes across seven dimensions: (1) institutional category, location, theme, publication frequency, (2) content and

[7] Benghozi J. and Lyubareva I., 2014, 'When Organizations in the Cultural Industries Seek New Business Models: A Case Study of the French Online Press', *International Journal of Arts Management*, 16 (3), pp. 6-19

online services, (3) devices for interaction with readers, (4) storage devices, (5) content production networks, (6) distribution devices and (7) pricing strategies. 50 characteristics were used to delineate each site and provide coding. Results indicate the existence of three distinct classes of BMs, the authors find: A minima digital (class 1), pure players (class 2), and exploring leaders (class 3). Main features for each class are shown in table 6/:

Table 6. Classes of business models

Class 1: A minima digital	Class 2: Pure players	Class 3: Exploring leaders
No read/ comment statistics on articles	Frequency of rolling release	Availability of web and web+ subscription pricing
No Twitter account	Site not provided by conventional media player	Availability of time credit/ quantity credit pricing
No content-sharing via social networks	Free access to archives	Availability of per-unit sale pricing
No article evaluation	Statistics on articles	Paid offline consumption
No RSS feed	Availability of other per-unit paid services	Paid access to archive
No sponsored links as income model	No online sales (free content and services)	Twitter account
No online payment availability	Possibility to consult and set up a reader's blog after subscribing	Statistics on articles (most read; most commented)
No readers' comments	Possibility to contribute in UGC mode after subscribing	Sponsored links among other income sources
No UGC	Twitter account	Mobile version
No online archives	Possibility to evaluate articles	Readers' comments
No mobile version	Access to content from other publications	Facebook page

From: Benghozi and Lyubareva, 2014

Based on the features above, the authors isolate the key characteristics of classes. Class 1 is characterized by a defensive strategy, aimed at protecting a traditional, cost-effective BM. Class 2 is logically dominated by new entrants

positioning themselves in the industry through genuine online BM parameters (free offerings, interaction with contributors and readers, distribution channels). Class 2 does not necessarily provide advanced technology, revenue structure and services. Class 3 includes incumbents willing to protect their leadership position and to explore new configurations from the Internet. Class 3 strives for new revenue generation, therefore exploring pricing options and models aggressively.

Although not based on digital revenue and profit indicators, the classes by Benghozi and Lyubareva ensure relevant fit to our research purpose and model:

- Descriptors of BM classes are consistent with the competency definitions we are using (knowledge/skills) and come in sufficient number to allow rich discussion,

- Classes allow congruence/divergence of competency configurations with respect to the digital adoption of firms,
- The data collected is broad and covers a wide spectrum of news publishers, enabling generalization within our field,

- We were able to conduct interviews with journalists working for the 149 firms analyzed in the taxonomy: our outcomes are directly related to the BM classes.

We chose to regroup classes 2 and 3 from the taxonomy by Benghozi and Lyubareva into a single category made of digitally advanced firms. Digitally advanced firms, as a consequence, includes both incumbent businesses and pure players. With respect to our empirical claim – which primarily focuses on the difficulties of incumbent firms – we could have chosen to exclude pure players from our field. However we considered that eliminating potential outcomes from pure players was limiting the view and understanding of digital-based phenomena. Secondly, some pure players are owned and operated by traditional news publishers, so that the specific arrangements they display are already providing a base for the digital strategy of these firms. Lastly, opportunities to access high-level journalists in successful pure players were created from sampling, and we decided not to miss them. Regarding a minima digital firms,

we decided to stick to the BM category of 'a minima digital firms' as defined by the authors.

Based on this, we are providing the list of categorized firms from our field in table 7/ below.

Table 7. Categorization of informants' firms along classes of BMs

Firm	Informants	Sector	Type of firm Incumbent /Pure Player	Digital adoption High/Low
Les Echos	Arnaud L.G.	Economic daily	I	H
Le Parisien	Henri V. Charles D.S.V.	General interest daily	I	L
The Huffington Post	Paul A.	General interest website	PP	H
La Tribune de l'Assurance	Géraldine V.	Professional weekly and associated website	I	H
Society	Anthony M. Simon C.	News magazine	I	H
Mind.fr	Emmanuel P.	B to B website	PP	H
20 Minutes	Anne K. Laurent B.	Free daily	I	H
Télé Star, Télé Poche	Emmanuel J. Jean-François M.	TV magazines	I	L

Among the nine different firms, two are B to B publishers (L'Argus de l'Assurance and Mind.fr) that have developed an extended online model, based on a hub of services and strong interaction with their professional communities (access to archives, event management and conferences, business intelligence services etc.). Three are based on general interest news (two national dailies, Le Parisien and 20 Minutes, and the Huffington Post, re-named The HuffPost, which is a pure player adapted from the US version). At the time interviews took place at Le Parisien, the strategic shift to an online-first publication mode had

not been implemented yet (it took place later in 2018). Le Parisien was thus categorized as a minima digital firm, looking at the descriptors from the taxonomy.

6. DATA ANALYSIS

In accordance with our research design, data has been analyzed following six different steps:

- Data was initially structured along first-order concepts, themes and dimensions referring to competencies and emerging from discourse analysis,

- From there, individual competencies were further identified form the discourse and described, distinguishing IPCs from new IDCs and reconfigured IDCs,

- Based on these two initial steps, we then sketched a transformation model relying on the key dimensions from data structure and the detailed competencies, leading from IPCs to IDCs,

- Results from the whole sample were analyzed along the transformation model, then we split the sample between senior journalists and digital natives in order to discriminate outcomes,

- We then isolated the results from individuals working in digitally advanced firms using the taxonomy from Benghozi and Lyubareva, and contrasted them from a minima digital firms to examine differences/similarities,

- Lastly, we extracted key results from the whole process and examined discourse elements referring to the organizational level, in order to suggest broader empirical analysis.

One of the key activities in the analyzing phase has been to code each discourse occurrence involving a digital competency and relate it to a dimension of the transformation model. Some quotes from the discourse involved several competencies – or the use of a competency sometimes contained a final purpose that linked it to another competency. In such cases, all competencies were counted. In the same way, the use of a competency was often found to rely on several dimensions of the transformation model, and not just one. Again, in such cases, all occurrences involving a dimension of the model were counted.

On another note, we have found journalists to reflect both on their personal competencies and those of their organization. What they had to do in order to perform work for digital was never detached from the organization. The tools available to them (content management systems, devices, etc.), the structure and ways of working at the news desk, the daily workflow and workload, the support from enabling functions within their firm (training programs, IT department), the scale of operations and material arrangements (number of positions at the news desk, managerial and financial constraints) – all of these organizational themes were reflected as being fully part of their personal competency challenge. Most of the time, these topics were highlighted to exemplify their personal experience and bring the situational dimension into the picture. These organizational themes are further discussed as factors potentially helping or hindering the change in competencies.

6.1. DATA STRUCTURE: FIRST-ORDER CONCEPTS, SECOND-ORDER THEMES AND AGGREGATE DIMENSIONS

From content analysis, 16 first order concepts directly relating to competencies were listed. They are shown below in table 8/. These concepts emerged from the categorization and are further illustrated by selected quotations from our informants, displayed in appendix D/. This preliminary work opened the way for broader second order themes description, then deeper data structuring and framing. Based on this initial work, we have been adapting the approach by Corley and Gioia in their study of identity ambiguity and change from 2004, in

order to identify aggregate dimensions relevant to our field. We have found this frame to provide adequate fit for the structuring of informative material from people exposed to change phenomena, and reflecting over a period in time. Data structure is displayed in diagram 9/.

Table 8. First order concepts

Sampled content	First order concepts
▪ We are a small team, we are just a few and we need to produce ▪ If you're three, you won't be doing the job of forty ▪ We're trying to expand time coverage at the desk, from 7 am to 11 pm	Deskwork extension
▪ The former roles of editorial assistants, photographers and technicians have been integrated into the jobs of journalists ▪ You must be able to shoot videos and do the editing ▪ You should know how to write a post for Facebook, a story for Snapchat or a Tweet	Integration of technical tasks
▪ Instant news push vs. daily editorial deadlines ▪ Deadlines every second ▪ Being first is what matters	Instant publishing
▪ Powerful, flexible CMS. They are improving ▪ SEO is key, it's evolving ▪ Algorithms and software determine what you do ▪ Structure of social networks needs to be taken into account	New tools/ devices

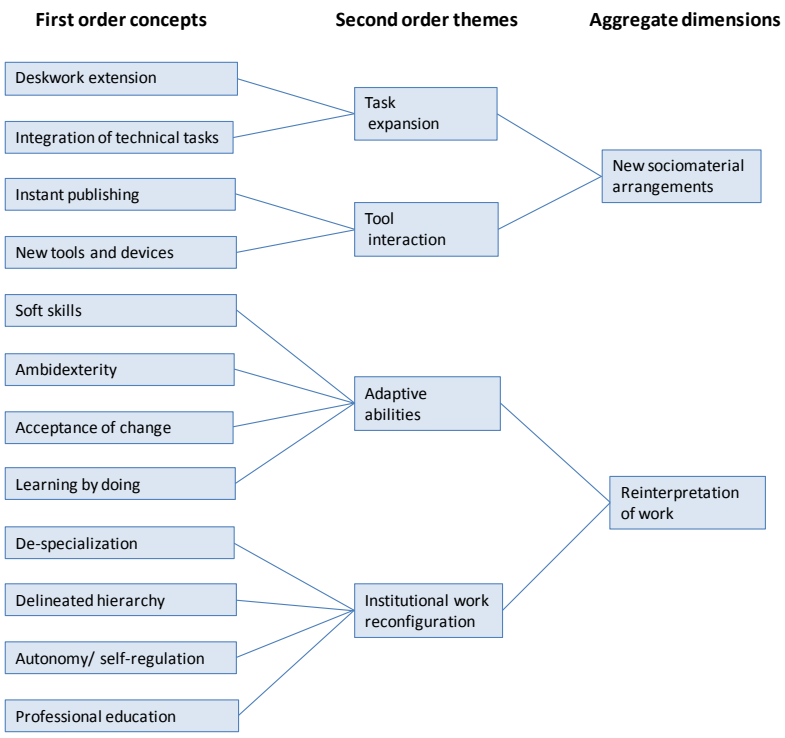
Sampled content	First order concepts
▪ Tools are changing all the time ▪ You must be able to use your mobile phone for the job ▪ You can't ignore the metrics, you have to adapt content to audience	New tools/ devices
▪ Content marketing is part of the job ▪ Journalists are asked to do a bit of everything ▪ Engaging with the audience becomes key ▪ You have to do content curation ▪ Detecting and sourcing external contributors from the web is key ▪ You have to know where your audience comes from and adjust ▪ Everybody should be concerned with figures and results from action ▪ You must be able to write in different formats, short, long, etc. in different contexts and via different channels ▪ You must tease, give the side stories, improve content in the flow ▪ We need people able to write, even if the rules are different ▪ At the end, you are read by real people, the job is the same	Soft skills
▪ No need for in depth technology knowledge ▪ Need to understand the structure of HTML, not to do the programming ▪ Individual technical skills get outdated instantly, no consolidation of expertise to be expected over time ▪ To be good at digital, you have to be curious and eager to learn ▪ You have to get training on the fly if needed and be ready for that	Ambidexterity

Sampled content	First order concepts
▪ Everybody can do it, it's not difficult, it's a question of mindset	Ambidexterity
▪ Embeddedness of journalism in print is a cultural obstacle ▪ You have to accept ex post control over publication, it's difficult ▪ There is no script, we don't know what we're doing ▪ No one knows what is coming next, but we'll manage	Acceptance of change
▪ Digital is about usage, you have to use social networks to learn and adapt ▪ We're experimenting new things all the time ▪ We are on a trial and error mode	Learning by doing
▪ There is de-qualification, everybody is pushed to the news desk ▪ Domain expertise cannot be ensured anymore ▪ Online means everyone's a generalist	De-specialization
▪ Hierarchy has been decimated ▪ No one can effectively control what is published ▪ Ten people where there used to be three to five times more	Delineated hierarchy
▪ Journalists are expected to be responsible people ▪ Extension of production time, so you have to decide on your own ▪ Need for people we can trust, with the right deontology	Autonomy/ self regulation

Sampled content	First order concepts
▪ Journalistic culture is even more critical to distinguish what we do from others ▪ Sourcing and fact-checking are still key, you just do it differently	Autonomy/ self regulation
▪ Schools have been lost, now they have adjusted curriculum ▪ Professional education should still ensure the fundamentals ▪ Interviewing, fact-checking techniques, etc. This is journalism. ▪ Coding and hard skills are no must have, no need to include them in the curriculum	Professional education

Adapting the design by Corley and Gioia, we structured data as shown in diagram 9/. Doing so, we were able to describe the competency components and the transformation process at play, as an entry point into the identification and transformation of individual competencies.

Diagram 9. Data structure along concepts, themes and dimensions



All first-order concepts are directly extracted from the discourse. All of them can be related to competencies, either because they depict concrete competency requirements linked to production, or because they refer to the adaptive needs generated on individuals by a changing environment. As illustrated by quotations (extensive list is provided in appendix), some first-order concepts contain detailed elements on how the job is impacted by digital from a material standpoint and what it requires to do it. Others reflect opinions on what matters to perform in the new workplace, and this often contains elements in terms of attitude and behavior towards change. Lastly, a number of first-order concepts refer to pure environmental factors from the workplace: competency is changed by the way organizations are adjusting their org chart, their supporting functions, their professional training programs, their headcount, their financial constraints, etc. Examining these elements we were able to categorize the different concepts along second-order themes reflecting the nature of the change in competency.

Four themes were identified to regroup concepts together: task expansion, task interaction, adaptive abilities and institutional work reconfiguration.

- *Task expansion*: gathers first-order concepts linked to competency requirements from additional digital tasks. More work is required from digital, as well as new work.

- *Tool interaction*: gathers first-order concepts linked to the usage of new artifacts. This theme typically contains elements like, e.g., the use of specific social networks (LinkedIn, Facebook, Instagram, Twitter and Snapchat are the most frequently quoted), how they are used and what it requires to use them. It also includes other technological interfaces like in-house content management systems (CMS), applications, chat bots, plug-ins, specific software (InDesign, or Illustrator) as well as hardware (mobile phones, laptops, cameras or recording studios).

- *Adaptive abilities*: gather first-order concepts that contain discourse elements related to individual competency change, typically, what it requires for people to adjust to an online production mode from a skill/knowledge perspective or from an attitudinal viewpoint. As examples, quotes like 'I've always been curious with new technologies', 'You don't have to be a mechanic to know how to drive a car' belong to this theme.

- *Institutional work reconfiguration*: gathers firsts-order concepts along organizational arrangements affecting work and competencies. The way organizations are dealing with digital creates new competency requirements on individuals (e.g., need for more autonomy, working with no supervision, being able to cover additional news domains, etc.). 'Old', 'institutional' work is stretched and reconfigured to fit new organizational design.

Using the categorization above, two major dimensions finally emerged from data structure. We were able to gather *task expansion* and *tool interaction* as a coherent block along the new socio-material reality created by digital. This dimension was labeled as '*new socio-material arrangements*', defining the

concrete elements – tasks, assignments, monitoring of artifacts – along which people need to organize their competencies. In the same way, *adaptive abilities* and *institutional work reconfiguration* together contribute to a single dimension, which we decided to label as '*reinterpretation of work'*. While our first dimension gathers practical modalities driving competency change, this second dimension calls on a reflexive stance by individuals to adapt former knowledge/skills to environmental requirements. Quotes from this dimension typically include opinions on what matters most to people, what they think is important for digital work completion, how they are coping with competency change, how ways of working are affected by decisions at firm level.

As a first step into data analysis, data structure has allowed the sketching of a transformation model for competencies – and this sketching has followed an iterative path: a first representation was produced, then empirical fit was tested going back to the data and data structure, and this process was conducted three times before we were able to propose the model described below. In parallel, the identification of IPCs and IDCs was conducted as a separate process: all quotes namely containing a competency, or containing distinctive elements that could be related to a specific competency were extracted from the discourse. Outcomes from this identification process are displayed in the next section.

6.2. INDIVIDUAL COMPETENCIES FROM DATA: IDENTIFYING AND DEFINING IPCS, NEW IDCS AND RECONFIGURED IDCS

Discourse analysis enabled the identification and description of six inherited Individual Print Competencies (IPCs) that were pinpointed as being common to our senior informants. It also allowed the identification of two sets of Individual Digital Competencies (IDCs), as a result from second-order themes and aggregate dimensions: we chose to label them as New IDCs and Reconfigured IDCs. While new IDCs appear as the result of pure digital requirements applying to the workplace, reconfigured IDCs are the transcript from inherited IPCs in a transformed environment. New IDCs were not required before digital and are strictly linked to an online production mode. Reconfigured IDCs are generated

by the need to adapt existing competencies to the new workplace. They correspond to pre-existing competencies – however the skills and knowledge required to use them has been modified, sometimes substantially, in a digital environment. We chose to keep the labels of IPCs for reconfigured IDCs in order to ease the analysis and discuss continuities through the transformation. As an example, '*writing*' was kept as a single label for the corresponding competency before and after the digital shift, although '*multiple-format writing'* could have been a more detailed description for the IDC. Again, the labeling of competencies followed a number of iterations, from the formulation of a definition to the data, and back. For example, a first digital competency was labeled as '*community management'*. Then examining all detailed transcripts, we chose to re-label it as '*social networking'* especially after additional material was obtained with digital native informants; what appeared from these new interviews was a need for a broader definition, able to include extensive use of social networks for access to content and sources, promotion and distribution etc. alongside pure community management. In the same way, '*content marketing'* was re-labeled as '*distribution and marketing'*, when looking at the detailed knowledge/skills mobilized and the final purpose (as a consequence, competency components like search engine optimization, increasing the reach of articles, increasing the number of clicks and interactions with the audience were included here, along with trading content with third parties).

Interestingly, individuals were able to provide in-depth description of the environmental factors and underlying organizational issues at play in the shift to digital. However when reflecting over their personal competencies, they seldom referred to this. Rather, what they described was a very personal path and iterative adaptation process, along with reflections on motivation and mindset. The need to adapt was almost never called into question at individual level, which contradicts the stereotypes around resistance to change. What came into light was much more focused on two questions: 'How to adjust to the new technical requirements?' (With a common idea that they were unprepared), and 'What does it mean to me as a professional?'

From this categorization, and relying on the former data we obtained, we were able to detect, list and describe each competency emerging from the discourse.

Individual print competencies (IPCs)

They appear as rooted in professional education and experience and constituted of the initial knowledge and skills that have structured the jobs of our informants. These competencies are the bedrock with which individuals are entering the new troubled, disrupted times. They also form the initial material which will require further reinterpretation as the new routines and artifacts are put in place, or that will need to be dropped, sometimes at a personal cost.

Individual Print Competencies (IPCs) are listed in table 10/ and rated according to importance (importance as a factor of number of quotations).

Table 9. Individual Print Competencies (IPCs)

Individual Print Competency (inherited)	**Description from data**	**Selected quotes**
Sourcing +++	Ability to search for exclusive and valid information and effectively find it. As an IPC, sourcing is dependent on professional networks and mutual trust. It is also linked to domain expertise and deontology. Sourcing is based on social activities such as informal discussions with relevant people, having lunch with them, etc.	'The first thing is how to look for information. F.R. gave me his address book and introduced me to some of the policemen he knew. He explained me about who does what, how the different services work, who are the top guys, who I could get in touch with.'

Individual Print Competency (inherited)	**Description from data**	**Selected quotes**
Domain expertise ++	Domain knowledge acquired through specialization, allowing in depth, relevant news coverage and access to good trustworthy sources. It is enabled over time.	'There are some technical aspects. I took ballistic lessons with an expert from GIGN {…] because I needed to understand what the different calibers were about.'
Storytelling ++	Comes as a motivational driver for many journalists and a vocational aspect of the job. Storytelling is the ability to structure a narrative and catch readers' attention. It is also viewed as a specific talent by informants.	'I remember a remark F.R. made to me about a news report I wrote after a night with the cops in the Paris 18th arrondissement. He said I can't hear the tires making noise, the howling sirens. We've got to understand you were there, your reader should be in the car with them.'

Individual Print Competency (inherited)	Description from data	Selected quotes
Deontology ++	Rigor in applying the standard rules designed at corporation level, to ensure news is exact, sources are protected and content is independent. Compliance failure may result in serious career damage.	'Once confronted to reality, you've got to do things right. Just a silly thing for instance, they send you at a synagogue's door to get reactions after an anti-Semitic terror attack. Well, some guys, they end up at the café with two reactions missing and they just invent them. It's 7:30 pm and your chief editor is after you. He wants your paper, so you add up a little testimonial.'

IPCs were reflected spontaneously by senior informants when asked about their career and how they started as a journalist. They were largely illustrated through anecdotes. The motivational drivers appeared as strong – especially with sourcing, storytelling and writing. They were easily related to professional education and the adaptation from early experience in their young years. In other words, IPCs are strongly embedded in the professional experience of our informants as journalists.

From a methodological standpoint, we decided to identify IPCs using transcripts from senior informants only. Clearly, references to IPCs were also made by younger, digital native journalists. However our rationale for excluding digital natives from this identification and labeling process was that this would have

added second-order data and brought confusion on the reality of competency requirements before the shift. While digital natives spontaneously reflected on IPCs, they did it either with respect to what they had learnt through professional education, or looking at their senior colleagues and comparing their own experience and competencies with them. They had a representation of IPCs – and opinions on them – but had not lived in a print-only world. For IDCs, and based on the same rationale, we decided to include all transcripts by all informants in the identification process: senior journalists and digital natives are now operating in a digital environment, meaning they are able to reflect on digital competencies through their lived experience, regardless of age.

Individual digital competencies (IDCs)

Two distinct sets of IDCs were identified from our data. The first set is the result of an acquisition process that draws on new task and technology requirements. These are the new IDCs for new job performance. The second set is the result of a transformation process applying to IPCs. The competencies within this set come with the same objectives and the same labels as IPCs. But the content is altered to fit contextual needs for digital. One of the key outcomes with reconfigured IDCs is that their relative importance for digital is changing compared with IPCs. Some of them (and mostly the ones that were identified as motivational drivers for journalists) are rated as less important for digital, either due to new time allocation or to organizational constraints. This will be analyzed further as we cover the transformational model. Our grid of new and reconfigured IDCs is displayed in table 10/.

Table 10. Individual Digital Competencies (IDCs)

Individual Digital Competency	Description from data	Selected quotes
New		
Social networking ++	Engaging with online readers via the websites and social media channels. The capacity to navigate the codes and rules of social media, and make best use of them for editorial purposes. Includes the ability to post, tweet, etc. in a relevant manner, i.e. relying on the structure, purpose and complementarities of networks.	'The primary elections took place yesterday. We had a community manager on assignment for the night to orchestrate the event on networks, produce Snapchat content, forward articles on Twitter, organize live tweet sessions etc.'
Content curation +	The ability to detect and reuse relevant content from third party sources on the Internet for audience purposes.	'We were looking for information on the web, collecting news on American websites and translating it.'
Distribution and marketing +++	The skills (and knowledge) necessary to trade content and ensure visibility on the Internet. This competency is based on understanding the audience metrics (see 'Analytics' below), understanding the content production landscape and trading content for audience with others.	'Distribution via search engines and SEO are part of a chief editor's job. You do marketing with content, so the people in charge of content are in the talks'.

Individual Digital Competency	**Description from data**	**Selected quotes**
Analytics +	The ability to monitor the metrics behind web audience and use them for appropriate editorial decisions.	'A chief editor should know the figures and master analytics, this is obvious. You've got to monitor your website as if it were a human body'.
Technological ambidexterity +++	The ability to capture know-how from the overall digital environment and translate it for professional usage. The ability to experiment from usage calling on agility and curiosity, and adjust acquired know-how to fluctuating technology requirements.	'All I need is people able to get started with the tools. […] You've got to realize that the way you're working today may be adapted to your needs right now, but that it might change in six months or one year time'. […] What I'm expecting from them [*note: journalists in my team*] is to show appetite, and not be afraid of everything new.'
Reconfigured		
Sourcing ++	Reconfigured sourcing competency, including the ability to make use of digital to identify and access information, check for relevance, identity, legitimacy and seriousness. Digital sourcing involves verification (identity of bloggers and potential content partners etc.)	'I use social networks to find people, access contact details and know who they are before interviewing them. You have to be agile to source and organize interviews. We still follow the old rules of multiplying sources. We have plenty of testimonials and viewpoints in each article.'

Individual Digital Competency	Description from data	Selected quotes
Fact-checking ++	Fact-checking for online includes the same abilities as the corresponding IPC. However it also includes the verification of online content and crossing web-based news with other channels. It is ensured under higher time pressure.	‘’We call other people to check the news is verified. We open folders on Google Drive with all the information we collected – especially when several journalists work on the same topic. Then we do the interviews on the web, via Skype or meeting with people, and we cross-check.’
Domain expertise +	Domain knowledge acquired through specialization, allowing in depth, relevant news coverage and access to good trustworthy sources. Specialization is not ensured at the same level for online production, under time and organizational design constraints. The ability to cover broader news sectors comes as a consequence.	‘’I wrote for music magazines, then I thought I could start doing something else, so I got into cinema, then culture in general and after a while I was into society – so almost anything.’ I write for Society, but also So Film. Then there’s Tsugi, which is about to become some kind of hub, and Green Room, the website by Heineken.’
Storytelling ++	The capacity to adjust storytelling to a variety of delivery and reading modes, adapting techniques to the different online channels.	‘I suppose you should know how to tell a story. The guys from my generation they haven’t read so many books, so they have a way of telling stories that is very much inspired from cinema.’ ‘The older guys, they have a less flexible way of producing articles.’

Individual Digital Competency	**Description from data**	**Selected quotes**
Writing+++	Media-contextual or multiple-format writing. The ability to adjust content to a broad diversity of channels: websites, Twitter, Facebook, Snapchat, blogs or platforms (mobile apps). Adaptive writing calls on the capacity to ingest the codes of each media (number of signs for Twitter, story building for Snapchat, etc.) and monitor SEO rules.	'It's a bit like *à la carte:* we do the writing as we want. The subject will not dictate the format. Rather, we have a subject and we decide how we want to write it.' 'The difficult thing is that you should write specifically for each network. You don't do a Tweet like a Facebook post and a Snapchat story. So you should diversify, have different productions for each platform.'
Deontology ++	Reconfigured competency from the corresponding IPC, with two additions: self-regulation and digital wariness. Self-regulation calls on autonomy, along with ex post publishing control abilities. Wariness is the competency to sift low quality or suspicious content from trusted, valuable one. New tasks are added ('googling' to avoid plagiarism, being aware of social network activities from a contributor, contacting people before publishing third party content).	'When you work with bloggers you work with people who do not share the same deontology. There is a lot of marketing. […] Wariness is the rule. We copy-paste Google content to make sure this is not plagiarism. The people we work with [*note: on the Internet*], they don't even see where the problem is.'

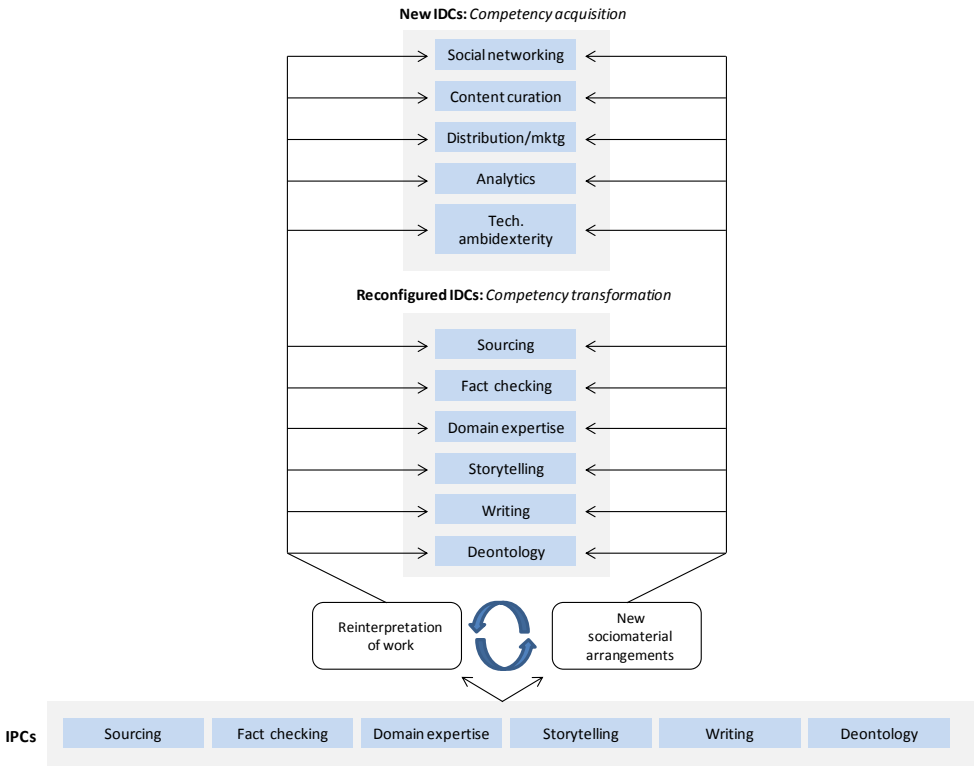
As an additional note into these labels and definitions, we want to highlight the choice we made with *technological ambidexterity*. As will be shown later in this section, technological ambidexterity appears as a major competency from the

discourse, with numerous quotes by informants. In-depth analysis revealed that some of the components of technological ambidexterity are very close to the concept of digital fluency, as proposed and defined by Briggs & Makice (2012), and further detailed by Wang, Myers and Sundaram (2012). As briefly introduced in the research problem section of this thesis, digital fluency is 'the ability to reformulate knowledge and produce information to express oneself creatively and appropriately in a digital environment' (Wang, Myers and Sundaram, 2012). We found journalists from our field to reflect both spontaneously and extensively on this ability through concrete examples, whether they belong to the digital native population from the sample or to the senior population. Examining detailed quotes on this topic, we also found people to give detailed information and explain what they do. One key skill with technology is the ability to detect new apps, software and add-ons able to make the job easier. As Simon, one of our digital native informants says: 'Finding details on people's lives is an easy thing. All you need is a couple of online tools and be a little savvy. Small tools, like add-ons you put on Gmail. If no one is calling me back but I can see my email has been read eighteen times and forwarded to four different people, then I know people are interested [*note: by an interview*]. […] Something else, I can browse someone's website and even if there is no contact page, I can find the email address with which the site has been built. By reversing the code, I will find it. Always a little tricky, you've got to be resourceful. At the moment, there is a big thing at the news desk – some have tried it and now we're all on it. It's called Lucha, it's a paying thing but very cheap, it pumps out all the email addresses behind LinkedIn.' Drawing on this example, we want to highlight the two components behind the skill: (1) the ability to detect the right tools, and (2) the ability to make use of it for the job. From there, and as a reference to the concept of organizational ambidexterity (Birkinshaw, Probst and Tushman, 2009), we understand *individual ambidexterity* as the corresponding ability to explore and exploit technology for job performance. As a result, we are proposing *technological ambidexterit*y as the label for this competency.

6.3. THE COMPETENCY TRANSFORMATION MODEL

Although transformation may be understood as a continuum – and 2018 should certainly not be seen as the endpoint – we are looking at results today, on the premises that disruption has now occurred, and that results from change are supported by our model. The period we are looking at (roughly covering twenty years) is sufficient to make this analysis of change insightful – however with the limit of retrospective rationalization. From data structure and the description of competencies above, we were able to propose the following model for competency transformation:

Diagram 10. Competency transformation model



In this model:

- Sets of IDCs (new and reconfigured) are the dependent variables, As constructs, sets of IDCs are influenced by second-order concepts from our field, namely *task expansion*, *tool interaction*, *adaptive abilities* and *institutional work reconfiguration*, regrouped along the two dimensions of *reinterpretation of work* and *new socio-material arrangements*,

- *Reinterpretation of work* and *new socio-material arrangements* are interacting constantly: arrangements are not fixed determinants, rather, they are evolving along the adoption and rejection of changing artifacts. This is generating new reinterpretation, which in turn affects the way artifacts are effectively used for various purposes.

- Relations are discussed within the model, around the distinction between new and reconfigured competencies.

Each IDC results from the combination of an individual reinterpretation process along with new emerging arrangements regulating work activities. We found both processes to influence every IDC, whether new or reconfigured. In other words, using a new digital competency does not just call on adapting to material conditions, or to the setup of specific artifacts in the organization. It also requires an individual interpretation of the new requirements that calls on the legacy from the profession, and this is true for all informants from our sample.

6.4. RESULTS FROM THE TOTAL SAMPLE

All quotes from the discourse involving a competency were extracted and examined, in order to assess the existence of an interpretation process, or a socio-material adaptation process, or both. A comprehensive table featuring results from every informant is displayed in appendix. The identification and quantification of discourse occurrences was conducted applying the following rule:

- Assessment of a new socio-material arrangement associated with a digital competency, based on the following type of quotations: *'I am using this [application, social network, CMS, source etc.] to complete [this task], I am working like this, this is how I work with this [application, social network etc.], this is what I need to do when I write with this device'*, etc.

  - Description of the activities and practical work modalities associated to a competency identified from the discourse.

- Assessment of a reinterpretation process required to use a competency, based on the following type of quotations: *'What matters most to do my job as a digital journalist is […], what's new is […], I think journalists need to […]'*, etc.

  - Formulation of opinions on the relative importance of a competency, or what it involves to use it, identified from the discourse.

Regarding the reinterpretation process, the identification and quantification work includes quotations expressing a negative opinion, for instance: '*Expertise is not valued to the same extent; You now have to cover any type of news'* is counted as referring to '*domain expertise'* and resulting from reinterpretation. A limited proportion of quotations belong to this category, however we decided that all occurrences should be quantified as reflecting the transformation process.

Based on the above, results from the total sample are shown below. Table 11/ establishes the top list of competencies emerging from discourse analysis:

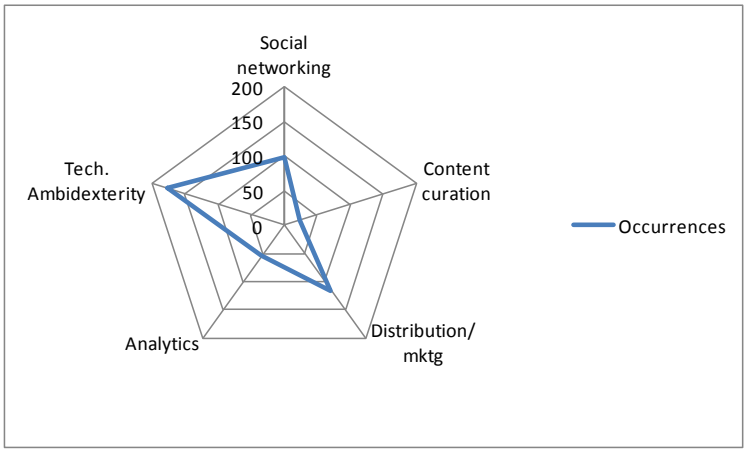
Table 11. Total number of occurrences by competency

Rank	Competency	Nr of occurrences
1	Technological ambidexterity	176
2	Writing	175
3	Distribution/mktg	115
4	Sourcing	112
5	Storytelling	108
6	Social networking	98
7	Deontology	60
8	Fact-checking	58
9	Analytics	54
10	Content curation	25
11	Domain expertise	17

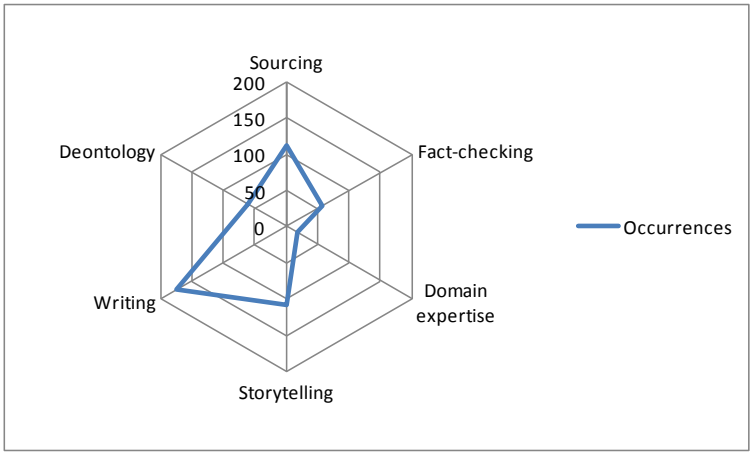
Diagram 11/ below shows the distribution of discourse occurrences for new IDCs and reconfigured IDCs separately:

Diagram 11. Distribution of discourse occurrences

New Individual Digital Competencies

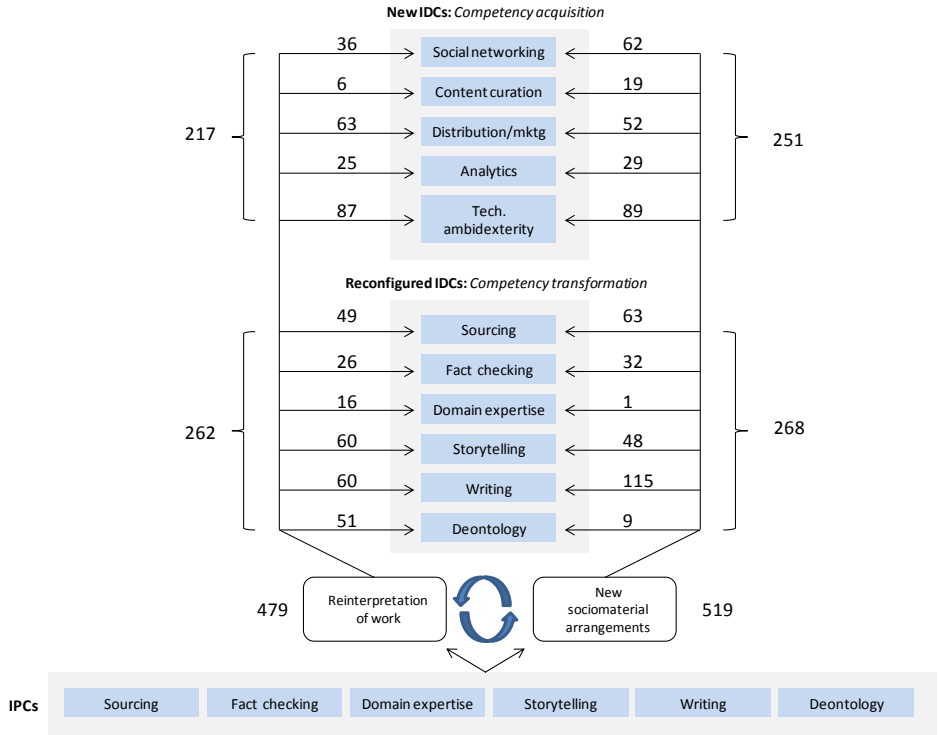


Reconfigured Individual Digital Competencies



The distribution of occurrences along competencies from the model is displayed in diagram 12/ below.

Diagram 12. Number of discourse occurrences along the transformation model



998 occurrences related to a competency were extracted from the transcripts of interviews with our 12 informants. 479 occurrences involved a reinterpretation process, and 519 implied a new socio-material arrangement.

Main results

From a methodological standpoint we want to make it clear that the quantification of discourse occurrences provides directions for further interpretation of results in our empirical analysis section – however should not be taken *per se* in our research design. This being clarified, general outcomes show that:

- Work requirements are made more complex and more numerous. This may sound as obvious, however it is supported by the number of competencies individuals have to display in order to perform their job in an online environment,

- The overall number of IDCs is brought to 11, which compares with only 6 IPCs, so that there is higher strain on the profession, from a knowledge/ skills point of view,

- None of the IPCs has been purely and simply abandoned on the way to digital, however some IPCs are rated as less determining for online job completion: fact-checking and domain expertise belong to this category.

Looking at competencies individually:

(1) The top three, most frequently cited competencies are *technological ambidexterity*, *writing* and *distribution/marketing*,

(2) A second set of frequently cited competencies includes *sourcing*, *storytelling*, *social networking*, *deontology* and *fact-checking*,

(3) The three less cited competencies are *analytics*, *content curation* and *domain expertise*,

(4) Interacting with artifacts is a major process transforming the 'old' competencies of *writing*, *sourcing*, *storytelling* and *fact-checking*,

(5) Reinterpreting work requirements is nevertheless a key transformation process too for *writing and storytelling*, *deontology*, *sourcing* and *fact-checking*,

(6) Among new IDCs, acquiring *technological ambidexterity* emerges by far as the most determining transformation process, relying equally on reinterpretation and socio-material adaptation (87 and 89 occurrences respectively),

(7) Strong reinterpretation of work is required to adapt the *storytelling* of news to the online world, and this comes as the dominant change process for this competency, ahead of adaptation to the new artifacts,

(8) While changing deontological needs is not strongly dependent on tools, it requires a rather intense reinterpretation of the former code of conduct, which appears to be driven by the overall environment,

(9) *Domain expertise* is globally left aside in the transformation, although most quotes referring to this competency questioned such evolution towards de-specialization.

Examining the distribution of discourse occurrences along the transformation model, we find that:

(1) Both processes at play are vigorous, each of them generating rich content and a high number of occurrences from informants,

(2) Each set of IDCs, whether new or reconfigured, is the result of both processes and these transformation forces apply rather evenly to the two sets,

(3) However overall, the competency transformation process of 'old' Individual Print Competencies is slightly more intense than the acquisition process of new Individual Digital Competencies (again we are insisting that the quantification of occurrences should not be taken *per se* in our qualitative research design, however we find 530 occurrences referring to reconfigured IDCs vs. 468 for new IDCs, and we take this result as an indication of the above),

(4) The transformation process of IPCs into reconfigured IDCs equally relies on both processes, which come with a similar number of occurrences (262 for reinterpretation, 268 for new arrangements)

(5) In order to acquire new IDCs, adapting to new arrangements is a stronger process than reinterpreting work – which comes as a natural outcome. However the reinterpretation also applies intensively, which tends to contradict expectations,

(6) There are some significant differences between competencies, with occurrence numbers in the range from one to ten between the less frequently cited competency and the highest one,

(7) The hierarchy of occurrences shows that key competencies belong to the two sets of IDCs, and not just one.

6.5. DISCRIMINATING RESULTS BETWEEN SENIOR PROFESSIONALS AND DIGITAL NATIVES

In this section we are splitting results from the total sample between the two categories of informants. As a reminder, two thirds of our sample is made of

senior journalists having lived the shift from paper to digital and one third is made of digital native journalists. While examining results from the two populations our purpose is not to establish direct comparisons through numbers, as we are conducting qualitative research and sample sizes differ. Rather, we want to look at significant differences able to highlight the dynamics of change within each group and suggest directions for interpretation. In order to provide the base for such interpretation, we are presenting the hierarchy of cited competencies for each group, the competency patterns as well as the distribution of discourse occurrences along the transformation model. These results are displayed in diagrams 13/, 14/ and 15/.

Diagram 13. Hierarchy of competencies from discourse occurrences

Senior (8 informants)

Rank	Competency	Occurrences
1	Writing	127
2	Technological ambidexterity	116
3	Distribution/marketing	95
4	Storytelling	77
5	Sourcing	63
6	Social networking	62
7	Deontology	39
8	Analytics	37
9	Fact-checking	29
10	Domain expertise	10
11	Content curation	9

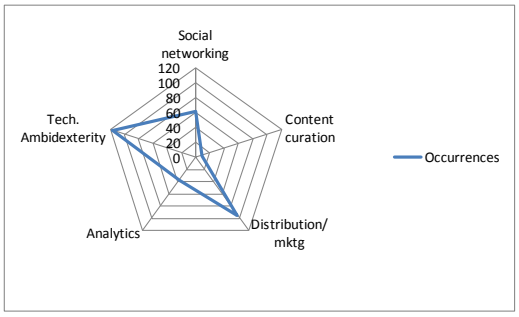
Digital natives (4 informants)

Rank	Competency	Occurrences
1	Technological ambidexterity	60
2	Sourcing	49
3	Writing	48
4	Social networking	36
5	Storytelling	31
6	Fact-checking	29
7	Deontology	21
8	Distribution/marketing	20
9	Analytics	17
10	Content curation	16
11	Domain expertise	7

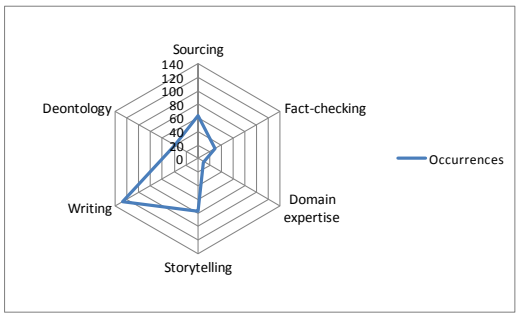
Diagram 14. Competency patterns based on number of occurrences

Senior journalists (8 informants)

New IDCs

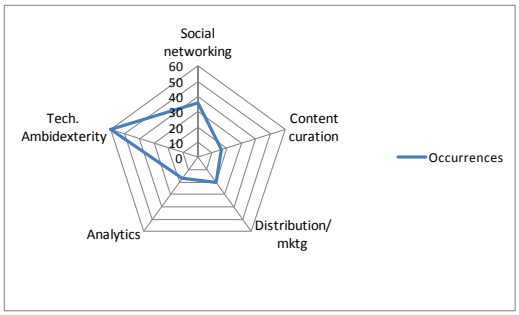


Reconfigured IDCs



Digital natives (4 informants)

New IDCs



Reconfigured IDCs

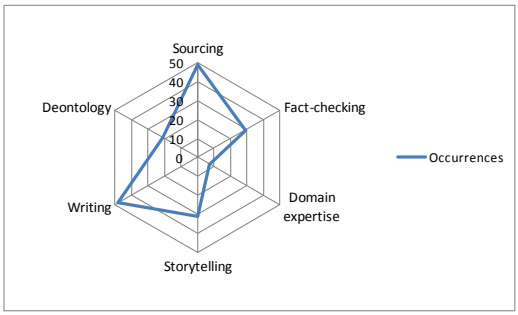
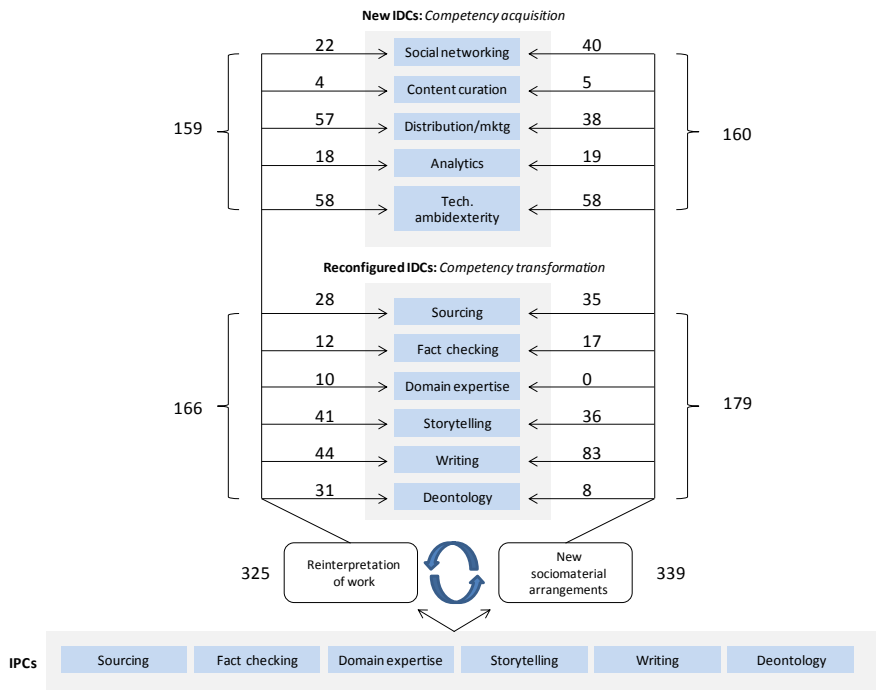
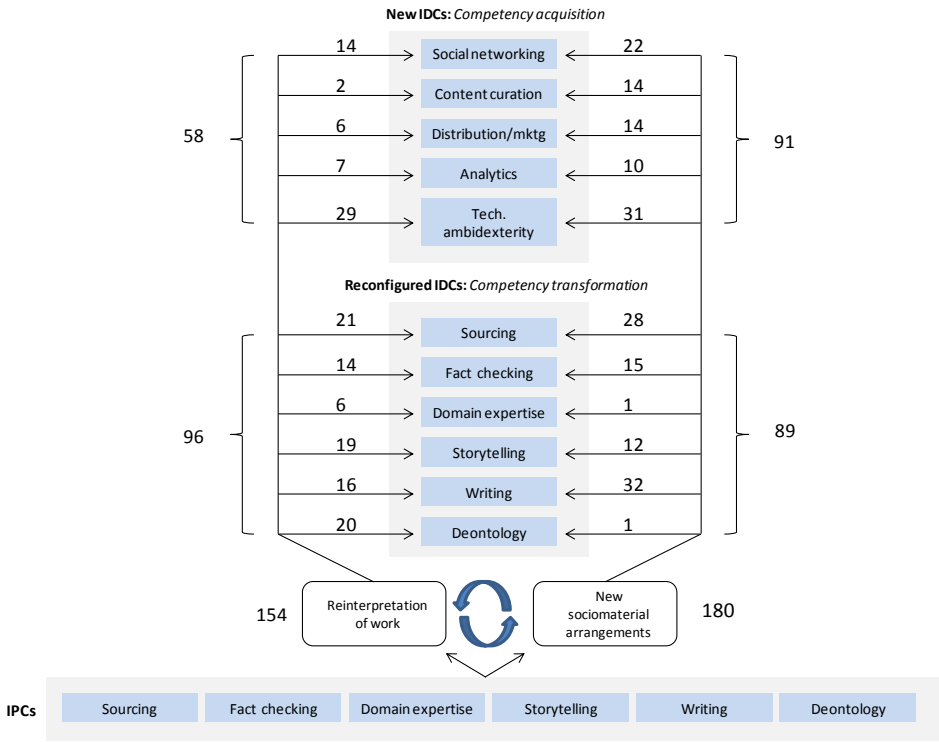


Diagram 15. Distribution of occurrences along the transformation model

Senior journalists (8 informants)



Digital natives (4 informants)



Main results

From the diagrams above we want to highlight the similarities and differences in the hierarchy of competencies and competency patterns among the two subsets of informants:

(1) Among new IDCs, *technological ambidexterity* has by far the highest number of occurrences for both populations, reflecting intensive adaptation from all interviewees.

(2) However *distribution/marketing* is generating much more quotations from senior journalists, requiring substantial reinterpretation of former competency requirements. This competency alone explains much of the difference we noted earlier in point (3) when looking at the intensity of the reinterpretation process and comparing the two populations. This is leading to distinctive competency patterns for IDCs.

(3) As a result of the above, the 'competency patterns' from diagram 12/ show substantial differences between the two populations. On the one hand, the acquisition of distribution and marketing skills by senior journalists emerges as a distinctive, key process within the subset of IDCs, comparatively to digital natives. This is creating a different competency pattern for the two samples, although other competencies do not differ in large proportions. On the other hand, adapting the 'old' journalistic skills of chasing for sources and verifying the news is a stronger requisite for digital natives in their working environment. From there, the 'competency map' of reconfigured IDCs is more extended for digital natives, although the shape is similar for both populations.

(4) All in all, the hierarchy of competencies emerging from the two subsets of informants shows common bedrock made of *writing* and *ambidexterity*. *Distribution/marketing* is part of the top three competencies resulting from the transformation for senior professionals, while it is ranked at the 8th position only for digital natives. The less quoted competencies are roughly the same, with *analytics*, *content curation* and *domain expertise* at the bottom of the list.

6.6. DISCRIMINATING RESULTS BETWEEN DIGITALLY ADVANCED FIRMS AND LAGGARDS

From our research problem and design, we intend to examine differences between contextual factors, and see how the transformation of individual competencies is affected by the overall digital adoption in the firms where people work. Using the taxonomy by Benghozi and Lyubareva (see methodological section above) and from our sample, four journalists reflected on work in a minima digital firms and eight of them in digitally advanced ones. Results from each subset of interviewees are displayed in diagrams 16/, 17/ and 18/ in the next pages.

Diagram 16. Hierarchy of competencies from discourse occurrences

Digitally advanced firms

Rank	Competency	Occurrences
1	Technological ambidexterity	133
2	Writing	116
3	Sourcing	86
4	Distribution/marketing	77
5	Storytelling	74
6	Social networking	72
7	Deontology	54
8	Fact-checking	48
9	Analytics	24
10	Content curation	18
11	Domain expertise	17

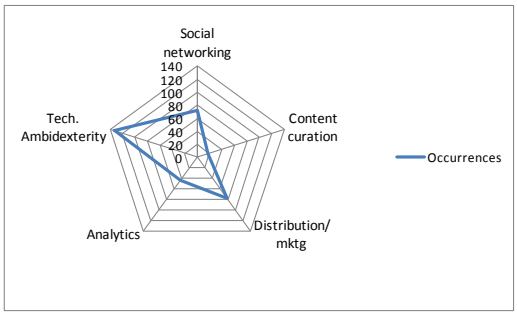
A minima digital firms

Rank	Competency	Occurrences
1	Writing	60
2	Technological ambidexterity	49
3	Distribution/marketing	48
4	Storytelling	36
5	Sourcing	31
6	Social networking	29
7	Analytics	21
8	Fact-checking	20
9	Content curation	17
10	Deontology	16
11	Domain expertise	7

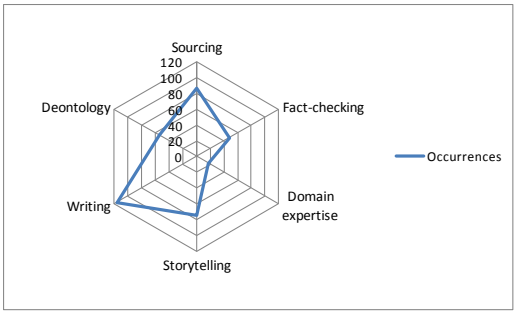
Diagram 17. Competency patterns based on number of occurrences

Digitally advanced firms (8 informants)

New IDCs

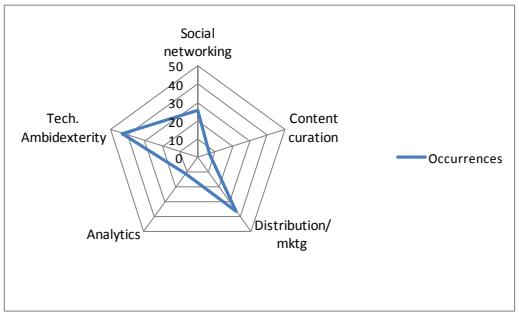


Reconfigured IDCs



A minima digital firms (4 informants)

New IDCs



Reconfigured IDCs

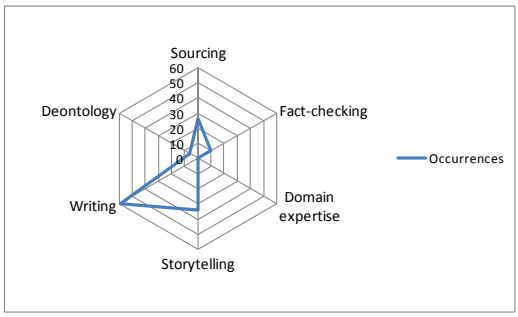
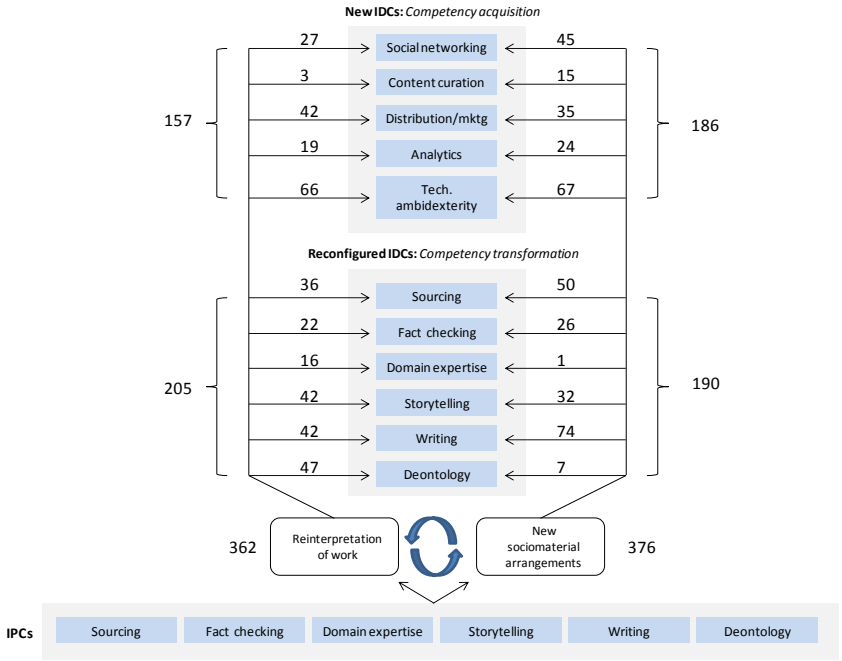
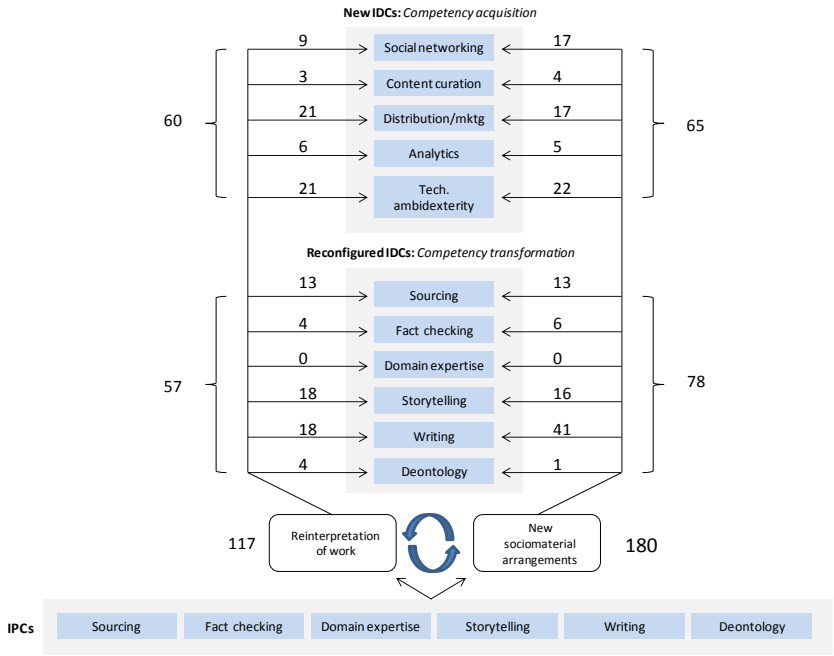


Diagram 18. Competency transformation model according to high/low digital adoption in firms

Digitally advanced firms) – 8 informants



A minima digital firms – 4 informants



Main results

Contrasting results along digital adoption by firms, we find that:

(1) General outcomes from the model are confirmed whatever the level of digital adoption: our two transformation processes evenly apply to the subsets of competencies following the same patterns, and this is true for both advanced and a minima digital firms. There is no specific competency transformation pattern for individuals operating in digitally advanced organizations.

(2) What differs substantially is the intensity of the transformation process. As an indication of this, the average number of quotes by informants is 20 to 30% lower in a minima digital firms, compared to professionals working for digitally advanced firms. The difference applies to each subset of IDCs, whether new or reconfigured. In other words, journalists in a minima digital firms have a lower capacity to effectively operate the shift in competencies and reflect on it, simply because the firm they work for has not changed its model and production mode thoroughly: as a consequence, they are not confronted to effective competency change to the same level.

(3) While we see some differences in the relative importance of key competencies, the top five ones are exactly the same for both categories: *technological ambidexterity*, *writing*, *sourcing*, *marketing* and *storytelling*. The backlist is also strikingly close for the two samples. Just as there is no specific pattern for competency transformation in digitally advanced firms, there is no distinctive skill emerging from the discourse that could be put in relation with the performance of successful firms.

(4) Informants in a minima digital firms are not engaged in strong competency transformation, and as a result some key traditional journalistic activities like *sourcing* and *fact-checking* are poorly reflected. The absence of significant organizational changes along new artifacts is refraining individual adaptation and concrete reinterpretation of the former requirements that used to apply when print was dominant.

As a result, the ‘competency map’ from diagram 16 is significantly smaller than for the other segment when it comes to reconfigured IDCs.

6.7. EMPIRICAL ANALYSIS

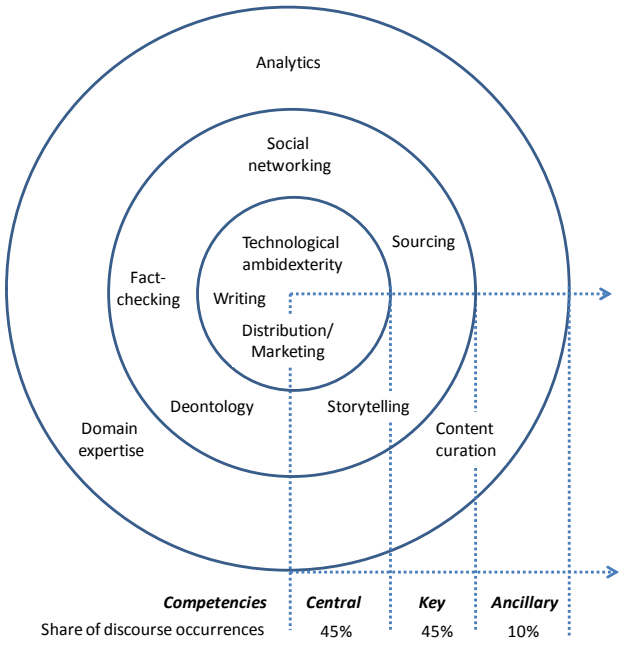
6.7.1. Analysis from the total sample: the changes in individual competencies

Summarizing the main results from our total sample, we find professionals to be actively revisiting competencies for digital. Competency transformation is the result of strong individual engagement into the adoption of new artifacts and intense reinterpretation of the ‘old’, print competencies. Each of these processes applies both to the acquisition of new skills and to the reconfiguration of former ones for online. No skill set is dependable on a single dimension from our model: there is strong interdependency at the different levels. Another major outcome is that two new digital competencies are emerging in the top three: *technological ambidexterity* and *distribution/marketing*. These competencies were not required to perform work before the shift to digital: they were not intrinsic requisites to journalism. However *writing* is still part of the top three competencies alongside *technological ambidexterity* and *distribution/marketing*. It is still valued by informants as a defining skill for digital journalism – but it is the only reconfigured IDC in the top three and we will analyze consequences from the shift in central competencies later in this section. Lastly, a range of important competencies is supporting digital journalism in specific areas where expertise is required, like *sourcing*, *social networking*, *storytelling* and *fact-checking*. In comparison, some ‘old’ competencies that used to be valued for print, and proved central in a journalistic career, are poorly valued in a digital workplace: *domain expertise* comes with the lowest number of discourse occurrences, as a result of profound changes in the economic environment and production flow, with increased multitasking at the news desk and lower specialization.

From the elements above, and in relation with our empirical claim and problem, our results reveal significant additions to former empirical research. We want to propose and review three major findings in relation to individual competencies:

(1) *Digital is creating a new hierarchy of competencies*. Analyses from the total sample and the detailed subsets suggest significant changes resulting from the transformation of competencies. The new hierarchy of competencies for digital can be represented as follows:

Diagram 19. Hierarchy of digital competencies



From empirical analysis, we are proposing a subdivision of individual digital competencies into three distinct subsets:

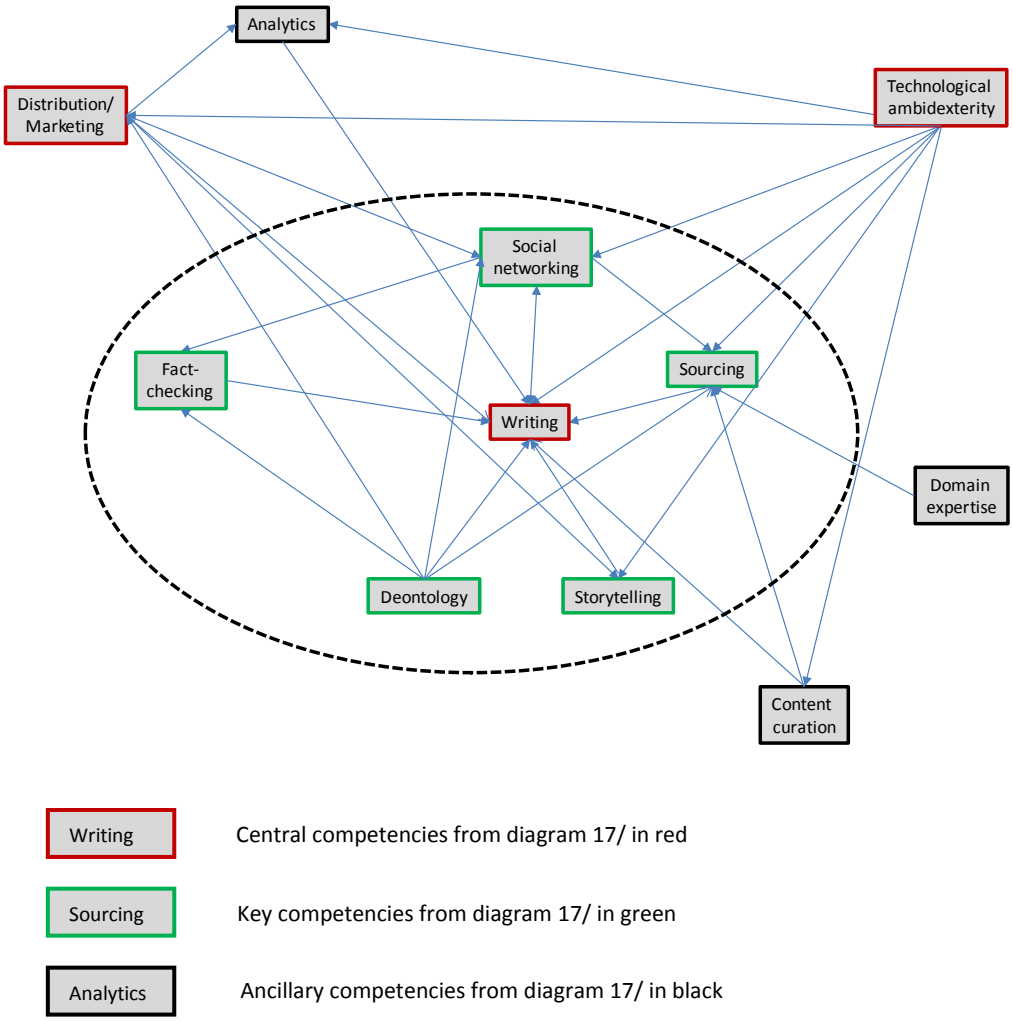
- *Central competencies:* these three competencies account for 45% of discourse occurrences and are commonly viewed by informants as essential for digital. Two of them were not required before: *technological ambidexterity* and *distribution/marketing*.

- *Key competencies:* this second set also accounts for 45% of discourse occurrences. It is made of five competencies effectively supporting individual job performance. Among these five competencies, four are transcripts of 'old' journalistic skills, and one (*social networking*) is a new requirement for digital.

- *Ancillary competencies:* this last set only accounts for 10% of discourse occurrences. Two competencies are pure digital requirements (*analytics* and *content curation*). While they correspond to new, material needs, they can be related to other competencies (*analytics* supports *writing*, *storytelling* and *distribution/marketing*, *content curation* is required for *sourcing* and *fact-checking*). In this sense, they can be viewed as second-order skills. One inherited competency is moving from a central role to an ancillary one for digital journalism: *domain expertise* is clearly relegated, as a result of production and economic constraints – it is not sustained across organizations any longer.

This categorization is further supported by examining relations between competencies, as emerging from discourse coding and based on directional links. These relations are shown in diagram 20/ below:

Diagram 20. Relations between competencies



In diagram 20/, central competencies are identified in red, key competencies in green and ancillary competencies in black. From a methodological standpoint, we have been identifying from discourse the competencies that require the use of another competency (e.g.: 'I'm using Facebook and LinkedIn to find the right sources' means that as a competency, social networking is a requirement to sourcing). Each occurrence referring to an 'end' competency and involving one or several others was tagged manually and the different links and patterns were sketched on this base. Directional arrows therefore indicate how some competencies influence others (in the sense that they are requirements for other

competencies). The central circle underlines the competencies mobilized for the core journalistic activities. From this diagram, we are providing additions to the hierarchy in competencies in diagram 19/, in showing how competencies operate and supplement each other. The two new central competencies of *technological ambidexterity* and *distribution/marketing* appear as overarching requirements. They are determining the way other competencies from our model are effectively called into action. *Writing* is the central skill sustained by other competencies, through multidirectional links. In a way, writing is the end-product of journalism. It is found dependable on multiple other activities and skills, which it is influencing in return. Comparatively to diagram 19/, the relative importance of the different competencies is not just a factor of the number of quotes generated from the discourse. It is also determined by the number of links between competencies. Ancillary competencies from the external area of the map feature lower interactions with other key ones. From this representation, we are showing that the three central competencies from the hierarchy play a different role. The two new competencies of *technological ambidexterity* and *distribution/marketing* are both diffuse and overwhelming. They are determining concrete task completion and the activation of all other skills from the model. The third central competency of *writing* plays a different role: it is concretely aggregating knowledge and skills from all around the map for final product delivery. Writing for digital is a reconfigured skill from the inherited model of print competencies – and it is the only one among the three. One important outcome from diagram 20/ is that the centrality of *writing* is maintained in the transformation. However the modalities are largely different for digital. As a reminder, we decided to keep the same label for *writing* before the shift to digital and now, but writing for digital is bound to the different delivery channels and implies multiple-format adaptations. It relies on the orchestration of much more complex requirements and skills than before, and this fully reflects in the diagram.

(2) *Individual competencies and tools constantly interact.* The competency adaptation process can be described as intensely individual and fuzzy. Fuzziness comes as an effect of the permanent change in tools and usage. Tools are defining the flow (instant publishing, no deadlines, more deskwork, multimedia content, etc.). Tools are also calling for flexibility,

multitasking and a clear extension of skill scope (knowing the basics with SEO, being able to produce video, posting, twitting, storytelling in the Snapchat format, etc.). The interplay between people and the tools they are using is central to the transformation of competencies.

(3) *The transformation of 'old' competencies is a key to the overall change process: Acquiring new competencies is not enough.* While engaging into change, people do not just acquire new knowledge and skills. New competencies certainly appear as critical for job performance, however they account for less than half of the total number of competencies we identified from our data, and less than one half of discourse occurrences: five new IDCs were isolated from our field, generating 468 occurrences, and six IDCs were described as resulting from a reconfiguration process of inherited competencies, with 530 occurrences. Taking the number of occurrences as an indication of the intensity of change, we find the reconfiguration process of 'old' IPCs to exceed that of the acquisition of new skills. The importance of this process transcends the segmentation criteria of our sample: it is verified for senior and digital natives alike, as well as for individuals in high and a minima digital firms. As a reminder, the new IDCs define as genuine competencies directly linked to the use of new routines and artifacts. They were not needed in the 'old' world. Reconfigured IDCs are transcripts from 'old' print competencies. The 'old' ways have been transformed and adjusted to the new requirements. But they are rooted in the same fundamentals, supporting equivalent tasks in a different environment.

The balance between new and reconfigured IDCs comes as an important result from research, challenging firms' tendency to focus attention on the acquisition of new competencies exclusively. Empirical results from our field suggest that firms should rely as well on the skills and knowledge people have acquired before shifting to digital. These competencies form valuable assets. They need reinterpretation, but they should not become oblivions. As individuals are executing new digital tasks, they are basically confronted to revised material conditions, triggering competency adaptation. New workflows and tools result in new competency requirements; but they also mean existing, inherited knowledge and skills are stretched onto new

territories. New IDCs jointly draw on tasks emerging from content management systems, online functionalities, social network content structure, video shooting and editing capabilities, software, mobile phones, third party platforms, etc. However reconfigured IDCs are driven by routines and artifacts in the same way. Digital is adding new tasks for sure. It is changing the old competency definitions. However the final purpose for individuals is to achieve the same goals: this is shown from table 9/ with *sourcing*, *deontology* and *writing* for example. All three competencies are based on new, tool-driven requirements that add to the preexisting base but do not replace it. Also, digital calls on soft skills to a higher extent, enabling permanent adjustments to evolving tools.

All in all, reconfigured competencies are sustaining distinctive activities that are typical of journalism and crucial to job completion too. This is what informants consistently revealed: "[SEO] is a minor additional technical constraint, just like spelling is a technical constraint. Just like grammar. Then it might be a competency. It might be a competency I have […]. I don't find it alienating. And telling stories is still the same." (Emmanuel J.) As a consequence from the above, the role of reconfigured IDCs also appears as a determinant of differentiation. Jean-François is bringing additional insight: "What matters is the quality of the information you are releasing. If you've got the wrong news, there is no point in circulating it broadly and being good at delivery." Convergent quotations indicate the role of individual professional legacy into the building of differentiation while moving into digital. As emerging from field, reconfigured IDCs are a strong driver for distinctiveness. This is reflected by individuals as part of their personal representation of competencies and work – as to what makes their job 'different'. It also has significant potential interest at organizational level in sustaining competitive advantage. Synthesizing this point, we find new IDCs to be necessary, however insufficient for people going digital. We also find reconfigured IDCs from new tool usage to constitute a coherent, potentially distinctive base for the professional bureaucracy.

6.7.2. Senior professionals and digital natives: bridging the gaps

Our results indicate differences applying to some competencies (senior journalists quoting distribution and marketing to a higher extent), along with distinct competency patterns. However analyzing these gaps in more depth, we want to introduce nuances and contradict expectations.

Regarding distribution and marketing, our inference is that digital natives have integrated these requirements into their job from the very start, as being intrinsically part of it when they started their career. Doing the distribution and marketing (as a reminder, this includes search engine optimization via keywords, taking into account the rules and specifics of the different distribution channels in terms of text length, incorporation of rich content, etc., trading content for audience with third parties, producing brand content, optimizing online reach, etc.) is a natural competency that does not call into question former representations of the job of journalists. Opposite to this, senior journalists need to shift former competency representations to adjust to this new reality. This is proving labor intensive, in the sense that they have to learn concretely how to handle it. But above all, it changes representations of what journalism is about. Some insightful quotes from senior informants are related to this topic, reflecting strong questioning around marketing. As Emmanuel J. says, explaining how he is producing brand content for the CRM and cloud computing solutions provider Salesforce: 'This software they have, it probably analyzes Google searches, Facebook behaviors, everything that produces big data, and it suggests themes and maybe even topics from there. Then they tell me I should write on mobile marketing, how to boost sales using e-commerce websites, […], the Internet-of-Things, that kind of news. Whether this is journalism? This is no journalistic purpose, it's not about information. It's about attracting people. Now of course, the press is about attracting people too. Hard for me to analyze, I don't feel like I'm doing journalism right now. […]. Now giving it second thoughts, yes, I'm doing journalism, the news I'm producing is right, it's verified. Maybe now this is journalism too. Maybe now a journalist is someone who produces news for a brand and not for a news publisher. At the end of the day, the news I'm doing for Salesforce, well it could be published by a newspaper or a magazine. So yes,

now I'm realizing this is journalism. But I'm from this generation with old patterns of thought. […] The good old myth of journalists working for the Pulitzer prize. […] What I'm doing for Salesforce, or [the oil and gas companies] Total and Engie, well that is journalism too.'

Looking at reconfigured IDCs, other significant differences should be noted. While the two subsets from our sample commonly reflect on *writing* as being a major skill for online – and value *storytelling too*, to a lesser extent – outcomes differ with two major journalistic competencies: sourcing and fact-checking. Contrary to expectations, digital natives cite these two competencies more often, and this is the result of a vigorous adaptation to the new artifacts. Intuitively, we could expect young journalists to be less focused on these competencies under the pressure of the information flow, to pay less attention than their elders and show lower rigor. Interestingly it is not the case, and we find them strongly engaged into displaying these competencies. Our assumption is that these are the areas where strong, new interpretation of 'old' ways of doing is needed for the younger ones, along with adaptation to changing tools. Sourcing and fact-checking are distinctive activities of journalism, in the sense that they together contribute to making journalism different as an end-product from the flow of other online content (produced by bloggers, social networks etc.). They also relate to *deontology* – and as result a proportion of discourse occurrences have been tagged as containing *sourcing*, *fact-checking* and *deontology* simultaneously. Not only are digital natives showing concerns on these matters, they are also actively engaging into competency development. Comparatively, senior journalists show lower individual dynamics to reconfigure these skills in the face of digital. Our assumption is that senior informants have acquired these skills in a print environment and do not value the need to change their ways of doing for digital to such an extent.

Comparing results along the transformation model between the two populations, we want to provide three complementary analyses with respect to the questions of digital savviness and the existence of a generational gap (Briggs & Makice, 2012):

(1) *The transformation of competencies for digital is an intensive process for both senior and digital native journalists*. One the key learning from the

model is that all professionals are onboarded into change, and not just the senior ones. Digital natives are vigorously adapting to an unstable environment too. They are equally onboarded into change, reinterpreting competency requirements and adjusting to new, changing artifacts. Tools are unstable for everyone, new applications and networks are appearing all the time, while others are falling into dereliction. Permanent change is 'competency intensive' for all professionals regardless of generational membership. In a sense, and from our model, the change in competencies is a never-ending process with digital – it is requiring iterative adjustments from any professional involved into news production over time. To put it in different words, competency transformation is not a path leading people from point A to point B. It has more to do with a loop, taking people from interpretation to action, back and again.

(2) *All professionals are equally involved in the adoption of new skills and the transformation of 'old ones, whatever their age*. Looking at the different sets of competencies from the model, another outcome is that both populations value new IDCs *and* reconfigured IDCs through discourse. Splitting the sample does not lead to major differences (at least in terms of the relative importance of the two sets), e.g. senior journalists being more involved in transforming 'old' competencies, or younger digital natives focusing on new IDCs and neglecting the competency shift required for reconfigured IDCs. This contradicts views around the existence of a generational gap, with representations and adaptation abilities strongly dependable on age (agility and propensity to learn from technology as a factor of age). While evidence of generational differences in the workplace is supported in the literature, mediators and moderators are still poorly informed (Lyons and Kuron, 2014), and such gap does not emerge from our model. The new environment from digital is, again, a reality for any member of the profession. Although there are significant differences from the discourse of informants individually, on how they handle competency change personally, this is not creating a major dividing line at sample level. Referring to the concepts of digital natives and digital immigrants (adults who have readily adopted technology as it has become available, according to Prensky, 2001), this

may appear as good news: as a population sharing the same professional reality, digital immigrants could be eligible for the Digital Country citizenship. However we should remain cautious with this result in the light of research design and the methodology we have been using. Our results are based on discourse analysis, not direct observation at the news desk. While some of the discourse by senior informants includes clear description of tasks and ways of working for digital, to some extent we may find them reflecting on *what should be done* rather than *what they actually do*.

(3) *What is really distinctive to senior journalists is the need to reinterpret former work in order to acquire new digital competencies*. This is an additional effort compared to the younger ones. Analyzing the transformation processes in more depth, we find digital native journalists less involved in reinterpreting work when it comes to acquiring new IDCs. The reinterpretation process is clearly less intensive than it is for senior journalists. An indication of this gap is brought by the average number of quotes by informant. Although this is no quantitative research as we previously noted, and this initial finding requires more investigation, we want to underline that the number of discourse occurrences from digital native journalists involving a reinterpretation in reference to a new IDC is 25% lower than for senior ones. Our inference with this gap lies in the younger journalists' direct engagement into new tasks from digital. More precisely, engaging into marketing activities or social networking does not require reinterpreting 'old' ways of doing for them, at least not to the same extent as their elder colleagues. They have not been confronted to a pure print workplace, so that acquiring new IDCs does not rely on reinterpreting tasks or requirements they have been experiencing before.

As a summary, we see some important outcomes from the discrimination of results between senior and digital native professionals. Firstly, competency change is a permanent requisite for all – it is the common horizon created by digital. Secondly, the two transformation processes from our model are affecting

the reconfiguration and acquisition of competencies regardless of generational membership. Thirdly, the intensity of change, as well as the propensity to display digital competencies is not a factor of generational membership. Rather, it is determined at individual level, as emerging from discourse analysis. Fourthly, the distinct entry points into digital production (from a time/experience perspective) are generating different competency acquisition and configuration patterns according to generational membership. Senior journalists need to become marketing-skilled, which appears as a major change. Younger ones need to interpret the traditional journalistic obligations of sourcing and fact-checking for the new world. Lastly, all of them have to be ambidextrous with technology and adjust their writing to the new channels, and these requirements transcend all others.

6.7.3. The organizational dimension

Before analyzing results with respect to digital adoption by firms, we want to formulate some preliminary remarks. As highlighted in the previous sections individuals confronted to change imperatives are actively revisiting their knowledge and skills. Yet they are engaging into competency change from *inside* their organizations, and this is emerging as a significant outcome from our field. The competency transformation process draws intensely on the individual level; however it is led by organizational factors. Adaptation is triggered by two major decisions by firms: (1) the adoption of a single workflow serving all end-products (print/ digital/ services), and (2) the revision of org charts and the delineation of hierarchy as a consequence of (1). From this point, we find people to be constantly acting and questioning their knowledge and ways of doing individually in the face of change. In that sense, and while changing their competencies, firms appear as the fuzzy addition of multiple individual iterations –not as cohesive institutional blocks. New demands are being formulated over individuals, sometimes collectively, but most of the time in a fragmented way. This triggers some initial steps into the transformation process people are operating. Organizational demands are calling on people's adaptive abilities, understood here as an individual's resources available to operate competency change. Individual adaptive abilities depend on the propensity to accept change

and develop soft skills, become ambidextrous with technology and learn from experimentation. But concretely, they are forged from new sociomaterial, technology-led requirements at the workplace (need to measure Internet audience, need to adapt content to social networks formats, need to feed multiple channels at the same time from the same base, need to create keywords for SEO, etc.).

While individuals are the real activators of change reshaping the organization's collective potentialities, the way they act is found to depend on organizational design parameters. In daily newspapers for example, constraints from innovation are at their utmost. The more structured and bureaucratic we find preexisting workflows, the stronger organizational demands are affecting people, thus triggering enormous individual adaptation effort. At some point, the organization becomes naturally and collectively dependable, as it is relying on 'provisory' competency change capacity from its people. Change has to be enacted, although incomplete and imperfect. Laurent, the Editor in Chief of the national daily newspaper 20 Minutes explains: "IT guys often say they owe a technical debt: 'we created this website based on coding, we knew our code was shaky, well in the next five or ten years, we'll need to improve it. It's going to cost us some time and money every year, but we did it, we launched it.' Well it was the same for us [as a team of journalists working for the web]. We knew we would need to face it, create our own team with its codes and culture from the inside. Then we had to improve, create common bases. It took us four years." As Laurent says, it is the learning and acting from the people at the heart of the organization that make change possible, even though this comes at a collective cost.

Discriminating results according to the level of digital adoption by firms, we are insisting that professionals in successful firms are not found following a distinctive competency development pattern or detaining a specific skill set that could be related to their working environment. Rather, what we see at play is a triggering effect of contextual factors: advanced digital firms are adopting new tools and ways of working, and this is generating intense adaptation from journalists, while professionals in a minima digital firms are lagging behind. At some point, digital is about experimenting, and this is what matters most. As Anne, one of our informants in charge of social networks in an advanced free daily says: 'We're on a trial-and-error mode. […] What matters is usage. Have

you been to MySpace? It's ugly. But it's experience first, so I want people to get started with the tools – that's all. […] We're trying to do experience sharing and help each other'. From this section, and as a consequence from the above, we want to highlight the asymmetry between the two transformation processes: while people equally interpret new requirements, regardless of how advanced their organization is, competency change is effectively triggered by tool adoption. What should matter to firms going digital is getting started. Improvements will follow.

The factors for enhanced competency transformation at firm level

Examining environmental factors in more depth, we were able to detect significant differences from the verbatim between the two categories of firms from the business model taxonomy. While establishing the list below, we have been looking at factors sustaining higher digital adoption, i.e. higher incorporation of digital in journalistic activities. Digital BM performance may derive from successful adoption of digital journalism – but this is a potential additional (and logical) step, not the exact purpose of our approach in this section. This being clarified, from a methodological standpoint we extracted additional quotes from the discourse through coding, in a separate process. Selected quotes relating to organizational arrangements are shown in appendix. Doing this, we came across important differences among firms from our field with respect to online maturity and online savviness. They can be summarized as follows in table 12/:

Table 12. Descriptors of digital adoption along BM classes

A minima digital	Digitally advanced firms
Télé Poche, Télé Star, Le Parisien	*20 Minutes, Les Echos, La Tribune de l'Assurance, Society, The Huffington Post*
Web content derived from the paper flow	Paper content derived from the online flow
Paper-first publication mode, online publication postponed to favor print	Online-first publication mode, print publishing adjusted to technical and financial limitations
Separate teams for online and print	Single editorial team regardless of delivery
Separate workflows with limited multi-channel adaptation capacity	Common workflow with easy templating and adaptation to end-delivery mode
Limited use of social media	Extended use of social media and community management tools (chats, videos, etc.) to drive traffic and allow customer response
Ex ante control over publication via hierarchy	Ex post regulation over publication by journalists themselves
No redefinition of organizational design	Fluctuating organizational design according to online experimentation outcomes
Fixed work conditions defined by paper flow, historical agreements with staff maintained	Extension of working hours and new setup based on rolling teams to increase time coverage
No specific mission statement for online strategic positioning, online unique selling proposition deriving from print	Definition and sustaining of an online motto across the organization

Using material from our field and based on the table above, we find outcomes to sustain empirically the BM descriptors established by Benghozi and Lyubareva in their taxonomy. What we are confronting to our description of a minima digital firms are the organizational arrangements in classes A and B from the taxonomy (exploring leaders and pure players). In parallel, we are comparing our findings with a minima digital firms to class C from the taxonomy. The descriptors for each class (existence of a Twitter account, of user generated content, comments on articles, availability of a mobile version, etc.) are consistently supported by organizational parameters from our field (broad usage of social media, workflow design, etc.). Some of our informants spontaneously described their organization as being late or advanced with digital, and some described important work in progress. For example, journalists from the daily newspaper Le Parisien reflected on the communication by the exec team and the training sessions planned before a new, digital-first content management system was launched at the news desk. This system was implemented since our interview took place in January 2018, as part of a strategic shift towards a digital paywall.

Based on organizational level observations, we see three major factors explaining how digital is favored in advanced firms:

- *Advanced firms have successfully redefined their mission statement*, embedding it in the online world and imposing this vision across the organization. This is relying on strategic capabilities (technological fit, production mode, organizational design) along with the capacity to give sense to new task requirements operated from the core, and to create a common vision. Digitally advanced firms have operated a strategic shift, reversing the historical view: online drives the competition game, while paper appears as a derived end-product. This does not mean paper is abandoned: paper supplements can be produced on demand whenever they offer relevant fit to usage (long reads, thematic content tailored for specific customer segments etc.).
- *Advanced firms are loosening a number of organizational parameters on their way*. Org charts are fluctuating. Tools and ways of working are experimented on a small scale first, before being rolled out or finally dropped. The ability to function on a trial and error mode is made possible by valuing individual experimentation from the operating core.

Learning by doing is supported by in-house training, experience sharing and the hiring of new people able to spread online culture across teams. In other words, organizational flexibility – or ambidexterity – comes as a meta-competency.

- *Advanced firms are translating the economic constraints generated by the disruption into their organizational settings.* The scissor effect from paper to online is monitored over time by adjusting volumes of print production. In large, daily newspapers, the downsizing of teams is compensated by rolling hours and flexible working time agreements. In the smaller magazine-based organizations, material arrangements (like office space, decision modes) are similar to those of start-ups. As Simon, from the news magazine Society explains: 'We all come to the office with our own laptop […]. We're all quite young, so that's an obvious thing to do. […] In fact our offices are just made of large tables, with almost no hardware. People come to the office instead of working from home, but conditions are pretty much the same. This is part of the SoPress DNA [*note: SoPress is the mother company of the magazine*]. [Our founder] has always been focused on human relationships, no need to have ten meetings to talk about things. He wouldn't impose morning schedules, or compulsory tools. What he says is that a journal is like a soccer team. You need a little hierarchy but not too much. Anyone should be able to speak up, but no need to organize it too much either.' Simon provides more illustrations of ways of working and material conditions at the magazine: 'Sometimes when there are decisions to take, things are kept so informal that you hardly know whether it's been validated or not. If I'm sending propositions for articles to the top three guys at the news desk, what I'll get is: 'yeah well, that's cool'. Okay, that's cool, now if I need to arrange travel, how do I do this? At the beginning, this was preventing me from covering some news. Now I know I just need to go to the accountant, ask for the corporate credit card and book my airline and hotel room. Some cubicles for interviews have just been installed at the office, because sometimes when you're doing interviews, there are so many people going around, playing ping-pong in your back, that it's a complete mess. We usually have a snack together at 4 or 5 pm. Everybody's donating a couple of Euros.' These quotes from Simon exemplify the delineation of hierarchy that goes along with stronger empowerment of journalists at the news desk. Another

consequence from increased economic pressure lies in the need to multiply online ads and links, and compensate for the declining ad revenue from print. This means audience should be measured on a permanent base and optimized via the right indicators. Synthesizing this point, external constraints are turned into competitive advantage by successful firms through new organizational setups.

Summarizing this section, we suggest translating the organizational factors for higher digital adoption into organizational competencies. Following the approach we adopted for individual competencies, we are proposing a set of definitions for organizational digital competencies based on the verbatim. Doing this, we want to flag an important limitation to the identification and definition of organizational digital competencies from our field, from a methodological viewpoint: we are investigating organizational competencies from the core of the professional bureaucracy of journalists (as outlined in the methodology section, this is part of our research design). This means we are only onboarding the view from journalists and that some additional concepts and themes are not documented. This being said, we are displaying these definitions as valuable insights into our topic, and potential axes for further research (see section 8/).

Eight organizational digital competencies (ODCs) were identified through discourse analysis. Selected quotes illustrating the distinctive ODCs are shown in appendix E/. Definitions are displayed in table 13/ below.

Table 13. Organizational competencies

Organizational Competency	Description from data
Technological fit	Ability to adjust to the potentialities from technology, select and roll out appropriate tools and adopt upcoming innovation on a flexible base.
Delineation of hierarchy	Ability to simplify and limit supervision, and empower execution level through multitasking job definitions.
Partnering	Ability to offshore parts of the content and services production process, and search for appropriate third parties with an open view.
Customer engagement	Ability to embrace social media tools and foster community management for higher interactions. Along with customer engagement is the ability to onboard customer feedback, adjust and take action.
Online-first processing	Ability to define and implement workflows from an online standpoint. Other activities should derive from this priority.
Online-first organization	Ability to place online-based production at the forefront of the organization. Organizational charts, team structuring and assignments should derive from this view.
Analytics	Ability to track and monitor online audience, customer engagement, etc. using the appropriate indicators. Along with analytical skills is the ability to share the metrics across the organization and engage teams around the right objectives .

Organizational Competency	**Description from data**
Online strategy enforcement	Ability to ensure consistency of strategic online priorities and sustain alignment across the organization, providing the right support and understanding.

We want to highlight some key elements from organization-related discourse analysis and competency definitions:

(1) *Organizational competencies can be spontaneously traced back to individual ones*. They come as the collective, enabling configurations that sustain the corresponding competencies among individuals. E.g., *technological fit* is the translation into the organization of the concepts that structure discourse analysis on this topic (deskwork extension, integration of technical tasks, instant publishing, new tools and devices), and that are found to influence *technological ambidexterity* at individual level. In the same way, *analytics* appear as the collective dimension of the corresponding IDC,

(2) *Online adoption across the organization is most of the time hectic*. What informants actually described was how they had to cope with the new tools and tasks, and how they were left alone with this. Adjusting the organization appears as an iterative, heuristic process in the shift to online. People learn, then the new takeaways are translated by firms along organizational design parameters, and changed again if necessary,

(3) *Online adoption carries a cultural dimension.* This has been thoroughly reflected by informants, who also questioned the level of understanding of the online world by the exec level. The disconnection between the core population of journalists confronted

to new tasks and the decision-makers was pinpointed by some of the interviewees as being a problem.

Organizational abilities have been heavily discussed and questioned by journalists from our sample. The issues at stake are clearly identified, as well as the success and failure of online strategy implementation.

Extending the view: antecedents of competency transformation

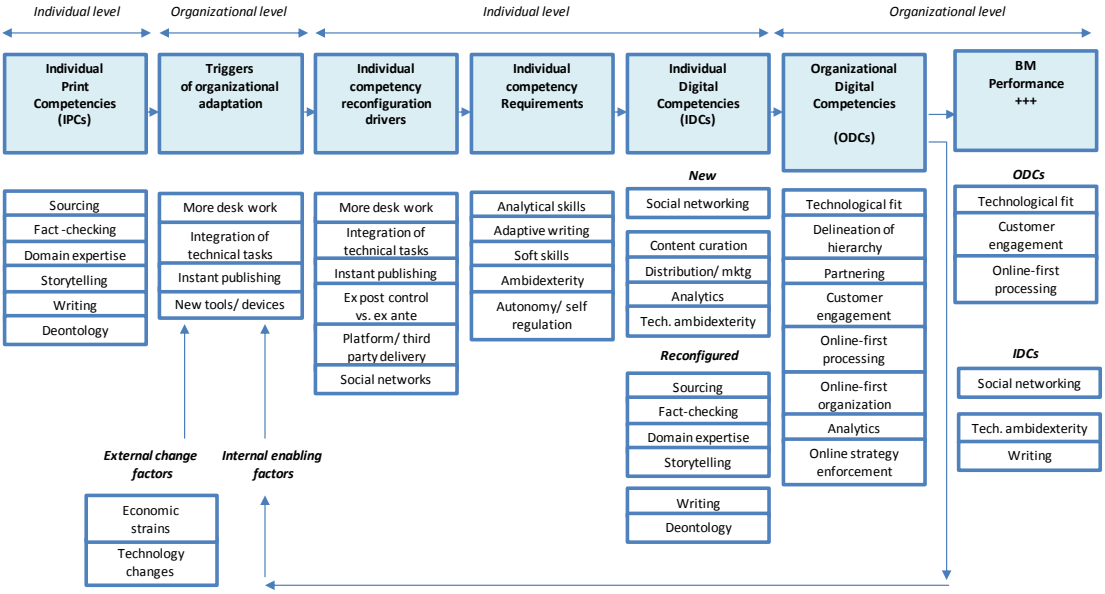
Our research demonstrates that organizational arrangements are crucial factors able to favor or hamper competency change. As discussed in the theoretical section, individual and collective levels are never disconnected. They are mutually dependent. And as shown before in the result section, individual competencies and organizational ones are strongly linked, both from a conceptual and an empirical standpoint. Definitions emerging from our field are close, and so are the components (skills/ knowledge). Individual level competencies can be successfully enabled and leveraged across organizations via specific organizational competencies, as described above. Formulating answers to our research questions (Are there factors found to favor/hinder individual competency transformation at firm level? If so, are there commonalities between digitally successful firms, from a competency standpoint?), we find that there is no distinctive competency configuration at individual level, according to the degree of digital savviness in firms. This comes as a surprise. What differs at individual level is the intensity of change – direction of change and overall patterns are the same. However there are specific organizational competencies and arrangement in successful firms. They are strongly supported by the discourse and can be clearly identified. As a consequence, a number of congruent factors for digital success can be established at organizational level, and these factors favor competency adaptation. Divergent factors can be identified in a minima digital firms as well. Our conceptual model along convergence/divergence with business model classes is empirically confirmed. In digitally advanced firms, people are engaging into a more intense competency transformation. This process is supported by a stronger technological fit within these firms, combined with a clear competency around customer engagement and the ability to ensure online-first processing. It is triggered by the new

artifacts that have been rolled-out across the organization. Opposite to this, in a minima digital firms individual adaptation efforts are scattered, and all transformation processes from our model appear as weaker. Transformation does occur to a certain extent, but it is creating more individual questioning: evidence of the new requirements and direct confrontation to the new tools is missing. A minima digital firms are in the middle of the road, leaving people with more questions than answers. Efficient learning is poorly supported by organizational competencies. Online strategy enforcement, as well as technological fit and online-first organization is particularly weak. In firms where no decisive strategic step towards digital has been made, no clear organizational arrangement has been carried out along tool adoption. As a result, organizational competencies fail to support people into change. Individuals are still learning by doing (bits and pieces of digital work need to be performed anyway), but efforts are hectic and not leveraged across the organization. The reinterpretation of 'old' print competencies is a process that does occur in all firms. We may take this as the result of Internet now prevailing in everybody's environment. However it is only sustained via fragmented task completion in low-performing firms and does not form part of an efficient, distinctive configuration in these settings.

From the above, the need for a view over antecedents of competency transformation is a natural development from this research. Individuals and organizations follow a route. Access to this route is activated by some competencies found in successful firms – like a 'toll'. In the case of digitally advanced firms, and as an example, digital-first information processing is leveraged by technological fit. This organizational configuration is allowing people to experience adaptive writing and community engagement faster than in other settings, via decisive and appropriate artifacts. The activities thus generated will in turn allow further reinterpretation and acquisition of other skills (sourcing the news via the Internet, multiple-format storytelling, applying a digital code of conduct, etc.). Using the image of a route again, people are able to gain speed and drive the digital highway, relying on the right configurations of competencies. Their car has all the equipment and onboarded information. Using the different concepts we have described empirically through this research (from data structure, competency identification and the model of competency

change), we are suggesting the following view over antecedents of competency transformation based on diagram 21/ below:

Diagram 21. Antecedents of competency transformation



From this representation, competency transformation appears as an intertwined process, relying on constant interactions between organizational and individual levels. The reinterpretation of 'old' individual competencies is triggered at organizational level by external factors (economic and technological). It is simultaneously facilitated (or hindered) by the existence of enabling organizational competencies (or their absence). Triggers of competency adaptation are driving the individual level reconfiguration process, according to the new sociomaterial arrangements - with a need for new, efficient routines. These forces are defining the new requirements for the professional population onboarded into change. They are framing the sets of individual digital competencies necessary to job performance, following three axes:

- An acquisition process of the new digital competencies,

- A reinterpretation (or reconfiguration) process of the ‘old’ print competencies,

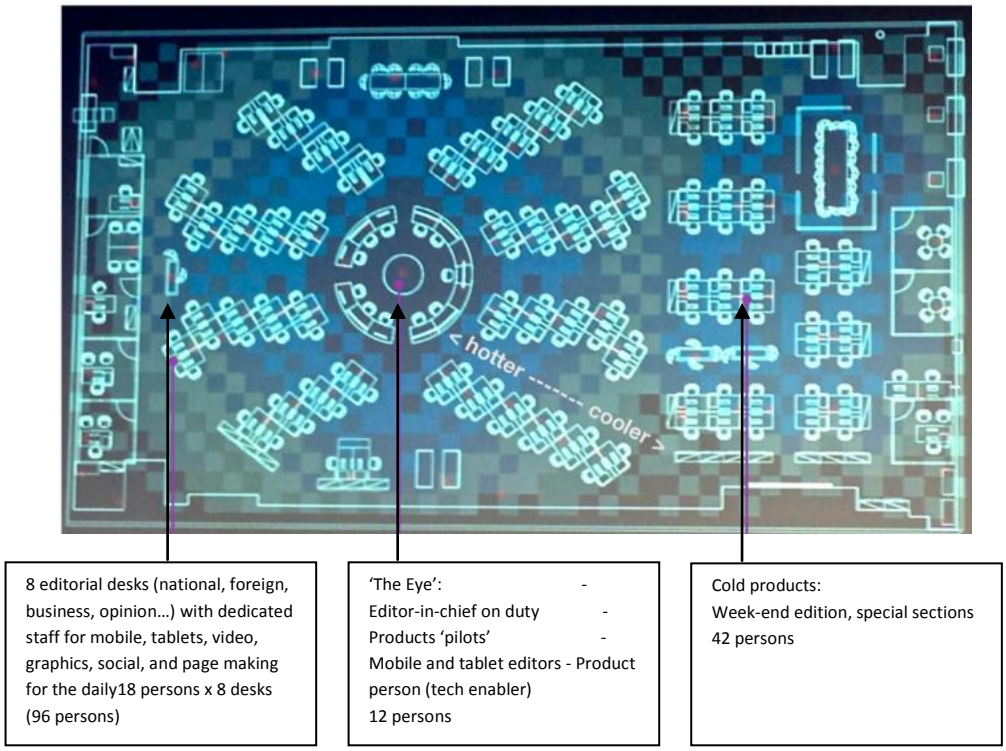
- A reevaluation process of the competencies that make journalism distinctive from other professional activities. As we have already shown and discussed, some ‘old’ competencies that used to be determining are found less important for digital (*domain expertise*). Some new ones appear as critical (*social networking*) while others are lowering the boundaries between journalism and other professions (*distribution/marketing*). Reevaluation is a cornerstone of the transformation at play. It calls on professional identity at individual level, and organizational identity at collective level – and both levels again appear as strongly connected. We have found strong drivers or obstacles to change emerging from discourse analysis related to the reevaluation of competencies. ‘Web journalists, they’re the low-cost guys’ came as a quote from field. Laurent, the Editor in Chief at the free daily 20 Minutes, explains how the new web journalists were treated at the news desk as they had just been hired: ‘Journalists from print, they were looking at them with contempt, making them responsible for devaluating the profession. Web journalists were not kind to them in return. They were speaking of them as a lazy bunch of arrogant bureaucrats’. This other verbatim reflects the overall atmosphere at this daily newspaper, at the time transformation was being implemented among editorial teams. ‘What is journalism in this new world?’ appears as a major concern between the lines, and a reason in the background for multiple questioning by interviewees. We have reflected on these issues when covering the redefinition of the underlying conception of work. In this section, we are simply putting the organizational dimension at the forefront. Reevaluation clearly stands out from the discourse as requiring attention from firms. It should not be overlooked: it can potentially help the transformation through appropriate decisions and communication, or become a serious obstacle.

Supporting change across the organization: the role of organizational design

As a final analysis in this section, we want to highlight the importance of organizational design in supporting competency change. At some point, decisions by the exec teams to change design, org charts, office space and reporting lines appear as critical. Adopting the right tools and doing the communication job is not enough. Triggering change is one thing, embodying it across the board is another one. Some insightful references to organizational design were brought by Arnaud, from the economic newspaper Les Echos: 'A few years ago, the guys at Die Welt [*note: German referential daily newspaper*], they decided they would follow things through to their logical conclusion. There is a time when you need to translate the transformation into the concrete settings of the company. They completely reconfigured office space at the news desk. Talking of a Copernican revolution, I mean, with respect to the traditional, journalistic aristocracy, here's what they did [*note: see picture 1/*]. This is what the news desk looks like now. The chief editors who used to be at the core, now they're on orbit, they're on the outside ring. The heart of the system is what they call 'The Eye'. This is where the new chief editors are sitting, the ones commanding the different distribution channels. Here on this side, you have the 'cold news' products, the special editions and supplements, everything that enables capitalizing on the second life or third life of the news. This is where they produce tailored content, working on attracting advertisers. This is what they are drawing margins from. We're not there yet, but the guys at Die Welt, they did it four years ago. And they're even pushing the logic further, breaking down other walls. What comes first is distribution.'

Picture 1. Office space configuration at the referential German newspaper Die Welt

*(*From: *Monday Notes*, Frédéric Filloux, Oct. 28, 2013*)*



From this example, we are highlighting how consistent decision making at organizational level potentially materializes the change in business model, and accordingly, how it is confirming the hierarchy in competencies and job conception. We also want to underline the conceptual similarities between our representation of competencies from diagrams 19/ and 20/ and the translation of new business requirements in office space operated by Die Welt. The inner concentric circle embodies the central competencies in both cases, along the distribution imperative and the primacy of technology. The vertical expert domains are moving from the inner to an outer circle. At Die Welt, they are forming news feeds converging to the different delivery points. What emerges from this comparison between individual level competencies and organizational level design at Die Welt is the shift created by online requirements: from competency *silos* to a converging, concentric model made of central and

supporting functions. And from distinct, separate competency components to an integrated vision.

7. DISCUSSION

This research looks at how people reshape their competencies for a changing environment. It finds people actively reconfiguring their skills and acquiring new ones against all odds, contributing to organizational transformation and business model innovation, through intense adaptation efforts. As an introductory note into this discussion, we want to highlight that our results are contradicting mainstream views around resistance to change. While competency change among the core professional population is bound to the support provided by firms, the need for change is shared: people are the promoters of change – and some of them proved very enthusiastic.

In this section we will be discussing the theoretical implications from this research for individual competency theory and BM theory first. We will then suggest areas for increased scrutiny from a managerial and human resources perspective. Lastly, we will question the evolution of professional bureaucracies in a digitization context and open the way for a broader discussion on the purpose of journalism and its sociological dimension.

7.1. THE SHAPING OF A NEW CONCEPTION OF WORK

As a result from the three points we developed in our empirical analysis (emergence of a new hierarchy of competences, constant interaction between people and tools, centrality of the reinterpretation process), the historical conception of journalistic work – in the sense of Sandberg, 2000 – is significantly altered by digital. Following Berger and Luckmann (1966), Husserl (1970) and Schultz (1945 and 1953) in stipulating that person and world are inextricably related through persons' lived experience of the world, we find digital to modify the lived experience by professionals substantially. Experience with the new artifacts and confrontation to new organizational design are

shaking ‘old’ representations of journalism. Large amounts of quotes from our field testify from a deep transformation of the conception of work through experience. We exemplified the shift through discourse earlier in this section, citing Emmanuel J., who explained how he is producing news for the marketing company Salesforce. He reflected on the questions and hesitations this is creating for his personal conception of journalism. Jean-François, a senior journalist for TV magazines, adds: ‘We are entering a risk zone, which is becoming technicians of news distribution, instead of sourcing the news. What matters to society is the quality of information. Being the best at broadcasting doesn’t make sense if the news is wrong.’ While expressing major concerns and a rather pessimistic view, this has to be balanced with other quotes. Anne, from the free daily 20 Minutes says: ‘One can come from marketing and become a journalist, what you need is a journalistic approach. Journalism, if it dies or is in a bad shape, it will be because it’s too corporation-centric. These are personal convictions. It’s got nothing to do with digital, just an idea of openness.’ These different examples highlight some important findings around the conception of work: Firstly, the shift in representation is driven by the ‘intrusion’ of *distribution/marketing* as a central attribute. This is lowering the traditional boundaries between journalism and business. As a theoretical addition, we want to signal that the newly awarded importance of marketing in journalistic work is questioning professional identity too. Professional identity is an individual’s self-definition as a member of a profession and is associated with the enactment of a professional role (Ibarra, 1999; Pratt & Dutton, 2000). The way that professionals view their role identity is central in how they interpret and act in work situations (Pratt, Rockmann, & Kaufmann, 2006; Weick, 1995). From these definitions, we are insisting on the entwinement between conception of work and professional identity, as a factor for enhanced individual challenge in the face of ‘journalistic marketing’. Secondly, the importance of *distribution/marketing* as a competency also challenges the historical notion of neutrality against the facts and the sources, calling onto a revision of deontology. Neutrality is contributing to deontology, in the sense that it is determining the way journalists accomplish a number of professional activities (ensuring the right balance between individual points of view when covering the news, keeping the right distance with sources). So that as a result, deontology is stretched into new territories. Interestingly, *deontology* generated a significant

number of quotes across our sample, and not just from senior journalists. As Simon, a young digital native journalist says: 'Before technical competences, there are human competences. I suppose one has to understand people when interviewing them, and avoid any kind of judgment. […] Ethics is important and has always been. […] To me, there is some kind of human ethics. If someone says to me, 'This is off the record', unless you feel you need to take sides with the information – otherwise you're not loyal to your audience, it's the other way round – well it's human ethics, it's about doing things right.' Producing brand content and doing the 'journalistic marketing' job does not just lower the barrier between journalism and business: it also challenges deontology. And deontology is defining the conception of journalistic work too, as opposed to other digital content production work (from bloggers, etc.). In this sense, it is contributing to professional identity as well. We find journalists of all ages to reflect thoroughly on these matters, which appear as central to the meaning of work and strongly driving personal motivation for the job. To label it differently, as a new, central competency attribute, *distribution/marketing* is challenging the skills and idea of journalism that go along with the 'old', central attribute of *deontology*. Thirdly, we are reflecting on ongoing transformation phenomena, meaning that the new, emerging conception of journalistic work is just taking shape in front of our eyes. There is intense debate among the journalists we met, with contradictory views on what digital journalism is and should be. While there is large consensus on the central competency attributes, the consequences of the revised hierarchy on the conception of work are still unclear to a certain extent. As an example, two opposed views regarding *writing* emerged from discourse analysis. Arnaud, from the economic daily Les Echos, notes that: 'An article for the web requires distinctive web editing, in line with customer behavior, designed in an attractive and user-friendly manner, taking into account SEO and Mr. Google's expectations in a very precise way.' Anthony, our digital native journalist from the magazine Society has a radically different view: 'People say there is a specific way of writing for the web, I don't buy this. They're taking online users for fools. […] It's like saying, dear reader, we know you have limited time, and we know you have limited brain connections, so we're going to explain you things as if you're dumb. I don't believe there is such a thing as web writing. Then, whether you're doing short or long format, the business model can't be the same today. Clearly, writing long format papers means you'll get less clicks,

except if it's a viral model, like, let's say, Weinstein.' Other dividing lines appear through the discourse when it comes to *social networking* and how networks should be used – for promotional and audience purposes, or sourcing the news, or both. Still whatever the differences in individual opinions on the consequences and meaning of change, there are also strong continuities in the representation of journalistic competencies and work. The distinctive skills for professional journalism, as expressed by people from our sample and opposed to other content producers, are strikingly consistent with 'old' requirements. They are intensely reflected by younger journalists, which somewhat contradicts expectations. Commitment to the truth, chasing for the relevant sources, using the right interviewing techniques, all of these typical journalistic behaviors and practices have been heavily quoted. They are still extremely vivid, structuring the conception of work, especially among the younger professionals. As such, they also appear as strong motivational drivers for the job, regardless of age. Anthony is bringing an insightful illustration: 'Interviews, I just love that. See, the moment when I'm really happy in life, is when I got twelve 'no' in a row, and the thirteenth time is a 'yes'. What I really love is to bring stories to the surface, contacts with people too, being able to talk to people. […] You want to understand the world, be able to tell people what you've understood. See, I interviewed Bill Gates once. I was terribly stressed and nervous. Great, I did it, I interviewed Bill Gates. It's over, period. He didn't tell me much in fact. I'd rather do an in-depth report in the Appalachian Mountains and interview Joe, who founded his own construction business years ago. He is having a hard time now making both ends meet, and he is going to tell me about life. I like it better, by far.' Summarizing our analysis of the new conception of work, we see substantial modifications in the hierarchy of central competency attributes for higher job performance, that tend to broaden the conception and lower old boundaries. In parallel, a number of historical competencies are maintained in relation to deontology and practice. This is sustaining a consistent vision among informants on what journalism is about and what makes it distinctive from other professional work. While some of the modalities of these competencies are altered to fit contextual needs, the main definitions are still applying. This is not an end-point, and there is some fuzziness in the new conception of work, with contradictory axes in the discourse. However we want to underline that the

majority of the people we met showed optimism on the future of journalism, as well as engagement along the new emerging conception of journalistic work.

Referring to the theory and comparatively to Sandberg's analysis of competencies among a sample of Volvo engineers (Sandberg, 2000), our approach does not establish several conceptions of digital work among informants that could lead to distinctive hierarchies. Rather, it shows how digital stretches the former conception of work to give life to a new hierarchy, and from there, to a revised conception. Looking at the hierarchy of competencies in engine optimization, Sandberg suggested that the most sophisticated conception (consisting of optimizing engine qualities from the customers' perspective) was the most integrated one, meaning that it provided more links between competency attributes and therefore was the most comprehensive – with the most powerful reach. From our model, we want to add that central competency attributes form the bedrock of an integrated conception of the new work. This integrated conception does not define relatively to other conceptions (primarily because this was not the original intent of our work). However it is enabling better use and performance from the other competency attributes (in the second and third circles from diagram 19/), that support efficient digital work. To put in different words, the more technology-savvy people are, the more agile they are with marketing, the more flexible they will be with multiple-format writing, and the more efficient they will be in mobilizing other competency attributes for higher job performance. Fluency with central competencies is allowing a new integrated conception of work to take shape, and this is sustaining other distinctive competencies along the hierarchy.

Through empirical analysis, we have demonstrated the key role played by artifacts in triggering competency adaptation. In this sense, our study acknowledges the importance of the new emerging socio-materiality in the change process, as defined and clarified by Leonardi et al. in their article devoted to social interaction in a technological world (Leonardi et al., 2012). It also confirms previous findings by Orlikowski and Scott that technology plays a critical role in the redefinition of a practice-based, material-discursive approach of an industry's transformation (the travel sector, in the case the authors developed – Orlikowski and Scott, 2014). We find that adaptation to technology is an iterative process, moving on and forth, finally leading to new interpretation

and action from individuals. It matters equally to the creation of new IDCs and to the emergence of reconfigured ones. Permanent interaction with tools is a consequence of several, joint factors at play:

- The pace of change**:** innovation occurs all the time. Usage is driving the game, with tools changing restlessly,

- The value from experimentation: online is about usage, therefore it's about trying (devices, applications, social networks). Interacting with tools is the best way to learn and adjust, as a consequence. Learning by doing is thus favored by people. While training and education are still ensuring a major role in formatting capable journalists, they do not substitute to experimentation,

- The predominance of skills over knowledge: any supposedly acquired knowledge like, e.g., the Google algorithm rules or the functionalities behind some video editing software, is bound to get outdated within a short timeframe. This does not mean new competencies are not at play. Rather, it means that skills are the determining constituent, and that skill acquisition is supported in a non conventional way. "There's a competency [with social networks], willingness is not enough. We have a group on Facebook, of social media journalists exchanging tips, because platforms change all the time", says Anne, who is heading the social media department at the daily newspaper 20 Minutes.

Interacting with tools is the decisive process by which individuals engage into competency change. This may appear as hectic and confusing to the professional bureaucracy: Job conception, as the theoretical unifying concept bringing together the knowledge and skills (Dall'Alba & Sandberg, 1996 – Sandberg, 1994) is severely challenged as we highlighted before, especially along the supporting rules. Individual interactions with artifacts may be multidirectional and pressurizing to institutional work. Still they are the essential factor for competency performance. As Anne reflects, 'We try to do experience sharing when we're in trouble with the tools. But what I see with these people [*note: young social media journalists*] is that they are Jacks of all trades, they're on a trial and error mode.'

7.2 COMPETENCIES IN BUSINESS MODELS

Additions to the taxonomy of business models in news publishing

Examining competencies in news publishing, we have adopted the existing taxonomy by Benghozi and Lyubareva to discriminate results along BM performance. Using this frame, we have shown that in digitally advanced firms, competency change is more intense – but that competency patterns and direction of change do not significantly differ. Using this frame, we have collected significant output in relation to the taxonomy by informants themselves – who extensively reflected on the BM dimension. As a result, we want to highlight several additions to the existing taxonomy emerging from our investigation of competencies among journalists. As a reminder on the taxonomy, firms have been categorized along descriptors of BM classes across seven dimensions: (1) institutional category, location, theme, publication frequency, (2) content and online services, (3) devices for interaction with readers, (4) storage devices, (5) content production networks, (6) distribution devices and (7) pricing strategies. This has led the authors to establish the existence of three different classes: a minima digital, pure players and exploring leaders. Digitally advanced firms from our field are either pure players or exploring leaders. However from discourse analysis, we want to highlight two limitations of the BM descriptors by Benghozi and Lyubareva in relation to the question of journalistic competencies:

(1) *The use of a descriptive approach does not reflect the final purpose of BMs.* It does not allow a view on the value proposition pursued, nor on the broader organizational arrangements retained at organizational level to achieve the corresponding goals. This appears as a limitation as the value proposition may reasonably influence competency arrangements.

(2) *Publishers are generally following hybrid models.* In the same organization, specific teams of journalists are assigned different roles, in single or different entities. Some are producing content for instant publishing, others for 'cold' products (magazine-type content,

advertising supplements etc.), and others are doing the social media animation. The use of descriptors of BM classes does not reflect the variety of models within a same entity. Some of the features used by pure players may be found in large, institutional media organizations as well, although generally assigned to designated teams. And the reverse is also true. In other words, the categorization along descriptors eliminates some of the specific competency issues linked to the production of different types of content for different publication purposes, and these activities are found simultaneously in the firms from our field.

In a sense, these two limitations are part of our methodology. However we are including this point in the discussion due to the material that emerged from our informants. This material suggests that another categorization of online BMs can be made along three classes, on the following:

(1) *The flow model*: the value proposition to readers lies in accessing real time, instant news through multiple online channels, accessible any time from any device (tablets and smart phones). Discourse analysis suggests that competency requirements in this model organize along strong adaptive abilities to technology and multiple-format writing, while maintaining control over sourcing and fact-checking. Journalists in this model typically spend more time at the news desk. Investigation skills are not at the forefront. Marketing and distribution are often managed by different departments/ people, as well as social network exposure. Some of the larger newspaper-based organizations from our field (e.g. Les Echos or 20 Minutes) are pursuing this model, but smaller B to B players also are (La Tribune de l'Assurance), as well as pure players (The HuffPost). Advertising, whether monetized from display or search, is based on audience size and reach.

(2) *The service model*: the value proposition lies in a variety of services built on the added value from information. These services have to be meaningful to customers, by providing distinctive advantages in designated areas. Services can be equally directed towards readers or

the advertising market, or both. They typically include conferences, event management, e-learning, in-depth reports, business intelligence surveys covering specific sectors, advisory services to customers, etc. In the service model, basic information is understood as a commodity that triggers a number of paying activities where margins are drawn. The service model is commonly found (but not exclusively) among B to B publishers, in sectors where specialized information is valued for decision making and business development (namely the economic press or the professional press). In this model, journalists engage in multiple-format writing according to the end-product. Their role as promoters of content for the different distribution modalities is central, and they typically trade content with advertisers and third parties. Marketing is a key feature driving journalistic activities.

(3) *The engaged model:* the value proposition lies in the distinctiveness of the information delivered, according to the criteria valued by a designated audience. The engaged model is a community-based one that can be built on political or topical inclinations, access to exclusive sources and information, in-depth investigation and stories, or opinions and editorials. In this model, readers typically fund a cause they feel close to and ideas they want to defend. The central feature is engaged journalism, based on sourcing and fact-checking and the use of social media to interact with the community of readers. While technological ambidexterity is required to make full use of social networks, content management systems are usually kept quite simple in this model. Revenue is drawn from the community and sales from advertising are limited, guaranteeing journalistic independence.

These three categories encompass the descriptive approach to BMs. Descriptors of digital adoption as per the taxonomy by Benghozi and Lyubareva (existence of user generated content, paying options, content sharing options, blogs, RSS feeds, etc.) can be equally found in each class, although some are more central to the value proposition of a specific class. Clearly, advanced paying options (pay-per-unit or subscriptions etc.) are a key to the flow model, while UGC or the

advanced use of social media matter most in the engaged model. But all technical arrangements tend to be available across the board, as digital adoption moves on and sophistication grows. While technical arrangements tend to unfold in every direction, each model defines along distinct features in terms of journalistic activities and focus. This is setting the ground for different central journalistic competencies according to each model, as briefly highlighted above.

In relation to BM performance, and with respect to this categorization, a minima digital firms typically have not chosen between the three models – they are not pursuing goals according to a specified value proposition. In some cases, they have made a choice but are lagging behind with execution, due to a combination of causes: low technological fit, pitfalls with the delineation of hierarchy and the redefinition of collective organizational arrangements, etc. An important distribution modality in this approach to digital BMs in the press derives from the setup of a paywall, and this has been thoroughly discussed by journalists from our field. Paywalls have been dominantly implemented by publishers from the 'quality press' and the economic and professional press, as a way to offset the downtrend in print circulation revenue. Paywalls trigger in-depth changes in the distribution of the news and accordingly in the core journalistic competencies mobilized through production, e.g., multiple-format writing and storytelling (short versions for the free section of websites vs. longer stories and side investigations for the paying section), or extensive use of analytics to decide upon free or paying distribution. In many ways, the strategic choice of implementing a paywall has paramount consequences on other digital arrangements and the competencies required from journalists. The move towards paywalls has expanded massively in recent years, as a defensive approach to protect revenue, and a way to differentiate from free content– available from Google and Facebook notably. However a recurring question is the perceived value from differentiated content: are customers willing to pay for higher quality information? Do they value the difference from the journalistic activities and the competencies mobilized – and how does this effectively translate in the end-product? While many publishers have been following this route, there are some remarkable exceptions. In Britain and as we reflected earlier when describing our field, The Guardian provides an example of a quality newspaper that deliberately chose not to safeguard the news behind a paywall: The Guardian is

asking readers for donations to defend independent journalism – following an engaged model. The strategic move towards paywalls is currently being documented through research step by step. Pickard and Williams have chronicled the debate over digital paywalls in the United States and studied the empirical record from three paywall models in place among newspapers (The Arkansas Democrat Gazette, The Dallas Morning News and The New York Times – 2013). Results indicate varying levels of success, but importantly, the analysis by the authors is that paywalls are unable to offset the losses in revenues created by digital. This is confirmed by Myllylahti (2014), who finds that paid content from paywalls roughly provides ten percent of circulation revenues for media publishers in a sample across eight different countries. As a natural development in research, further academic production addresses the question of how paywall adoption can be optimized for higher results. Sjovaag has studied the case of three online newspapers in Norway, analyzing content changes from paywall adoption (2016). Conclusions are that content distribution should be carefully designed, with open online news optimized for high traffic generation and paywalled content protecting the most valued and resource-demanding journalistic production of the newsroom. Myllylahti has documented the case of two Australasian financial newspapers in 2017, attempting to answer the question of what content is worth locking behind a paywall. Conclusions are that publishers consider hard news and opinion pieces as the most valuable news commodity, and that these article are the most frequently paywalled. However there are significant differences in the way paywalls are operated (86% of content protected in one case, and just 41% in the other). As we mentioned earlier in the methodology section, similar content strategies are in place in our field of research among French national newspapers, such as Le Monde or Les Echos – and across the globe – so that additional research focusing on the type of news paywalled, as well as the benefits of a hard/ soft paywall strategy will be of major empirical interest to publishers.

Discussing the base for further taxonomies of digital BMs in the press, we have suggested a categorization along three classes, able to capture the value proposition from the news. We have shown that publishers may pursue several models in parallel, in the same or in distinct entities, attemptedly diversifying revenue streams from digital, and that these strategies are not strictly linked to

the type of company (pure player or incumbent firm). Such categorization potentially opens the way for further investigations along the corresponding journalistic competencies, because the central competency attributes for each BM differ. We have also insisted on paywall adoption as a central feature decisive to BM execution that also defines new demands on journalists and the corresponding competency requirements. Our findings are drawn from qualitative research, meaning they should be confirmed at broader level via appropriate investigation. This is a fast evolving, uncertain landscape. But comparatively to a few years ago, models tend to crystallize. As a final note into this section, we want to quote our digital native informant Anthony on digital BMs and the future of the press: 'Journalists, they should care about business models, more than before. […] The soft underbelly of news publishing is going to shrink. On the one hand, more brands will have editorial projects. […] The world of news and the world of brands will have stronger connections, and on the other hand what you'll get is 100% independent publishers. […] In the middle the soft underbelly is going to suffer. Some will disappear and some will survive based on the Facebook and Snapchat model. In this context, the job will differ according to where you work. Doing the marketing job for brands. Running the rat race in the middle. Or reinventing relations with readers, reinventing the news with strong publisher image, so that people want to support you. It doesn't mean that the people who support you will not go to other news channels. […] What I like most is thinking about the future.'

Empirical additions to competency-based BMs

In the theoretical section of this thesis we have highlighted the move in research towards a configurational approach of BMs that integrates competencies in components and describes how they operate. We have exemplified this move using the RCOV model (Casadesus-Masanell and Ricart, 2010; Demil and Lecocq, 2010). Our transformation model for journalistic competencies – along with the link we are providing to organizational level competencies and BM performance – bring room for practical additions in frameworks. We are suggesting a path for higher onboarding of the competency components that can be described as follows:

(1) Identification of the existing individual competencies required for current core business activities,

(2) Identification of the individual competencies required for desired core business activities in the new BM,

(3) Categorization of the individual competencies required for the new BM: central/key/ancillary,

(4) For central/key/ancillary competencies, identification of adjustment needs vs. the existing competencies: Is a reinterpretation needed? Is an adaptation needed to new artifacts?

(5) Identification of organizational, collective competencies required for the new BM across supporting functions,

(6) Full mapping of individual and organizational competencies required for the new BM,

(7) Alignment of resources and competencies via appropriate policies (training, hiring, IT, outsourcing etc.).

As an example from our field, and following the approach above, the implementation of a new online service-based model for a B to B publisher (combining free and paying in-depth content, paying webinars and tutorials, paying conferences and tailored legal advice) unfolds below:

(1) Existing central competencies: domain expertise, sourcing, writing, deontology,

(2) Central competencies in new model: technological ambidexterity, marketing and distribution, multiple-format writing, social networking,

(3) Categorization of competencies: Other key competencies: sourcing, fact checking. Ancillary competencies: analytics, deontology, domain expertise,

(4) Adjustment needs: integration of online marketing and distribution skills, adapted writing to cover short/long formats (free vs. paying), extensive usage of Twitter and Instagram,

(5) Organizational competencies across supporting functions: technological fit, online-first processing, partnering, customer engagement, analytics,

(6) and (7): Full mapping of competencies for the new BM and alignment through appropriate policies (see diagram 20/).

Diagram 22. Detailed map of competencies and action plan for BM implementation (example)

Individual competencies for core BM activities		
Central	*Key*	*Ancillary*
Tech. ambidexterity *HR profiling of new hires*	Sourcing Fact checking ...	Analytics ... Deontology
Multiple format writing *Extensive training of staff to contextual writing techniques*		Domain expertise
Social networking *Peer coaching*		
Marketing distribution *Integration of marketing / distribution skills*		

Organizational competencies from supporting functions
Technological fit *Hiring of a Chief Digital Officer with track record in e-commerce and a start up background*
Online-first processing *Setup of a digital-first content management system*
Partnering *Identification of potential third parties along the value chain by the management team (conference organizers, event agencies, etc.)*
Customer engagement *Set up of Twitter and Instagram accounts for all staff*
Analytics *Creation of a new position within marketing department* *Creation of a shared dashboard available to journalists on Google Drive*

In the example above, we have not detailed all boxes – our idea is to frame the approach rather than provide an extensive view through this illustration. Unfolding individual and organizational competencies and detailing actions in a single map allow extensive connections between levels. From a managerial perspective, we are framing sets of questions and actions in relation to competencies, giving room for further adjustments. E.g.: If social networking is a competency expected from journalists in the new model, how do we need to embody and facilitate the shift at firm level? A central and highly symbolic decision to set up Twitter accounts for all staff will materialize the strategic importance of the new competency to foster customer engagement. The most agile journalists will be asked to coach their peers through adoption and usage, thus favoring a new community of practice in the newsroom.

From here, we are suggesting a practical addition to the RCOV model. As briefly introduced in the theoretical section, and although it is offering parsimony at conceptual level, RCOV can be developed in order to specify the different components and their consequences in terms of revenues, costs and margins. This can be conducted using the detailed model. This detailed model allows more accurate definitions of the intended BM to be captured. It enables thinner thinking of the incremental evolution needed in the case of an existing BM – or a more heuristic approach of innovative BMs (Warnier et al., 2012). The detailed RCOV model is based on a series of charts: each BM component (resources and competencies, organization and value proposition) divides into categories that can be informed. The authors indicate that these categories do not form a comprehensive list – and in some cases, all categories are not relevant. Regarding the detailed model of resources and competencies, five categories are displayed for further elaboration:

- Material resources (corporate property, productive assets, vehicles etc.),

- Financial resources (cash, shares, securities, etc.),

- Human resources (the characteristics of the workforce, more specifically in terms of volume and functions),

- Intangible assets, that fall into three different categories: technology (patents, software etc.), reputation (brand image) and network (with political decision makers, financial institutions, regulatory bodies),

- Skills/competencies.

Diagram 23. Resources and competencies (detailed RCOV model)

Material resources	Financial resources	Human resources	Intangible resources Technology Reputation Network			Skills/ competencies

As authors state: 'Skills/ competencies are constituted of the main individual competencies – but mostly of the collective competencies which potentially enable the organization to operate in a better or different manner from competitors, or may shape future value via one or several value propositions' (Demil B., Lecocq X. and Warnier V., 2013, Stratégie et Business Models, *Pearson*, p. 118).

Ou research is bringing evidence of the simultaneous call on individual and collective competencies for innovative value proposition. However it values individual competencies to a higher extent as the source of a renewed configuration. Our empirical addition consists in using diagram 20/ in order to identify and categorize individual competencies (central/key/ancillary) and organizational ones, and link them to other resources from the model. For augmented relevance, we are suggesting to examine each competency from diagram 20/ and analyze the requirements they create over other resources (material, financial, HR, intangible). Our underlying view is that individual competencies, combined with organizational ones, command further alignment of other resources for successful BM implementation. In the light of our

empirical research, we are suggesting higher scrutiny on individual level competencies in the RCOV model, based on this simple, actionable frame.

Individual competencies in BMI: additions to the capability view for increased performance

From a broader perspective, our research is adding to the dynamic capability view within BMI, as presented in the theoretical section – and more specifically to the configurational aspect of resources and competencies. Results suggest that efficient configurations of resources and competencies for an incumbent business engaging into BMI jointly draw on individual competencies among the core employees, and organizational competencies within supporting functions. In digitally advanced firms from our field, the central competencies required from individuals for new BMs have been identified and described by the exec team. The middle line (journalists with a management role) is able to reflect on them and address the requirements that follow (alignment of policies and tools, hiring and training, allocation of roles across the organization, etc.). Simultaneously, core organizational competencies have been also captured along new strategic goals, allowing decisive steps to be accomplished in areas like ICT, the setup of departments in charge of drawing revenue from the new activities, or collective organizational arrangements (working time, flexible office space etc.). Mutual adjustments occur between individual level requirements and organizational level arrangements. The value proposition from BMI is identified and has been communicated to staff. Referring to Metzger's conceptualization of BMI along dynamic capabilities (2014), the reconfiguring phase of resources and competencies has occurred – or is on its way. Firms are building new competencies and implementing organizational renewal. They are in motion, while a minima digital businesses are hectically adopting bits and pieces of digital gimmicks with no well established value proposition. As a reminder from the theoretical section, the capability-based conceptualization of BMI by Metzger suggests three core dimensions of BMI-related capabilities: (1) Sensing, i.e. the generation of new business models ideas, (2) seizing, or the systematic development of new BMs, and (3) reconfiguring, or the building of new competencies and the implementation of organizational renewal. According

to Metzger, *reconfiguring* unfolds into three major capabilities: the adaptation of activities along the value chain, the implementation of structured processes to evaluate and select the required competencies and resources, and the sourcing of operational resources necessary to implement the new BM. This last capability refers to the choice between internal and external resources. It sets the ground for further decisions by organizations, in areas like learning and development, hiring, branding, partnering, and the integration or separation of the new digital activities from the legacy business, in merged or distinct entities and ventures. Findings from our research suggest that:

- Sensing capabilities can be significantly leveraged, calling on individuals from the core professional population. As Metzger outlines, higher order technology competencies facilitate explorative product innovation (Danneels, 2002; Song et al., 2005). We find that such competencies are not only dependable on built-in technology knowledge and central ICT initiatives; they are also, and largely, a factor of the technological ambidexterity and benchmarking competencies available among core professionals. As discussed earlier, there is high proficiency from the most agile employees in identifying the sources of best digital practice, and analyzing the IT and organizational requirements attached to the most innovative models. In service-based industries, where intellectual added-value and a reflexive stance contribute to end-products, augmented sensing capability can be expected from better utilizing individual competencies. The core professional population has an ability to sense BM opportunities in all their dimensions (as an example, our informant Anthony M. explained how he detected and analyzed the digital BMs of two online news pure payers in the US and The Netherlands – namely The Outline and The Correspondent, went to his CEO and was granted further means to investigate business development options on this base). We are insisting that sensing capabilities for new BMs are not just leveraged by technological knowledge (Lumpkin and Dess, 2004; Wirtz et al. 2010). As we have shown, soft skills are central in the digital world and should be valued as such. Potential ideas may emerge from all parts of the organization, and more specifically from professionals at the core. We are following Enkel and Metzger (2013) in

acknowledging the importance of systematic analysis of competitors, adjacent firms and other industries for BMI. However we want to advocate for an increased bottom up, open view in incumbent firms. Management should favor a state of awareness and be able to capture insights from all around the organization in the sensing of BM opportunities.

- In the seizing of new BMs, experimentation from the core population equally matters. It is a source of increased capability. As suggested by Zahra (2008) and further underlined by Metzger (2014), there is a linkage between discovery and creation of opportunities. Our results suggest there is high value from experimentation with the new tools at the core, and that the trial-and-error process within this professional population may lead to effective BMI. We were able to access substantial material in relation to experimentation with digital apps, plug-ins, etc. Some of this may appear as anecdotal to decision makers. It is not: in some cases (and from our research field), benefits may lie in faster access to sources, more efficient content workflow, etc. – giving way to improved execution of the new digital BM parameters. But in other cases, benefits are more structural. Experimentation sustains BMI in the designing phase. At the free daily 20 Minutes, and as an example, the experimentation and exploitation of new social media features by the team in charge is an on and forth process. It has allowed the new digital BM to take shape, by constantly optimizing audience and reach through selected social network actions, while keeping the core journalistic content from the website 'unspoiled' from ancillary animation. This means oncoming traffic to the website is maximized, but 'serious' content prevails on the visible, branded part of the offering. The iterative approach to social network animation, built on the advanced usage of tools (Instagram stories, Snapchat, chatbots to interact with readers) is a key to the digital offer. It has been decisive in building a website that does not need to safeguard content behind a paywall, because the distinct types of content are well differentiated while benefiting from traffic optimization. This was viewed by the management team as an essential feature while designing the new digital BM. As Laurent, the Editor in

Chief says: ‘Free news is in our DNA. But we had to rephrase what it means for digital.’ For firms following BMI, this means experimentation should be supported by management along clear processes. Otherwise micro-level experimenting tends to fall under the radar, leading to fragmented learning and poor execution.

- In the reconfiguring of resources and competencies for new BMs, the transformation of individual competencies plays a key role. When supported by the right core organizational competencies, they fully participate to the shift. In digitally advanced firms, individuals are actively adapting they skills, allowing faster adoption of the essential features for BMI. Incumbents are entering the shift from an underlying base, made of existing skills and assets. As a consequence, managers should examine: (1) the underlying competencies available from the core employees, (2) the new ones that need to be acquired, and (3) the reconfiguring of the ‘old’ ones for digital. They should proceed by analyzing: (1) adjustments needs to new socio-material conditions, and (2) reinterpretation requirements applying to former work. Lastly, they should conduct analysis and set up action plans by categorizing the individual competencies, between those found central to new job performance, and those that are important and ancillary. Doing so, they are favoring the shift to BMI, aligning central individual competencies with core organizational arrangements. As a final note into this section, we want to add to the detailed view over the value chain. As illustrated by Metzger, a frequent requirement to BMI in the reconfiguration phase is to reconsider activities along the value chain and decide to divest and/or refocus. Drawing on our field, news publishers have been divesting from some of the traditional production and distribution activities (paper supplements, changes in print periodicity, warehousing and logistics). We want to underline that these decisions need to be carefully analyzed in competency terms, and compensated for with the new digital requirements in mind. For example, exiting from physical print distribution as a result of lower vertical integration means there should be higher focus on online distribution. The competencies once expected from specific departments in charge of print distribution now

lie in the hands of journalists for online. This means *distribution and marketing* is a new central competency – which we have described as 'overarching'. It is both essential to the reconfiguration process and more diffuse across the organization, meaning special attention should be brought by the management team to the acquiring and nurturing of such soft skills.

As emerging from this discussion, we are advocating for higher consideration of individual competencies for successful BMI and competitive advantage. Nair, Paulose, Palacios and Tafur have demonstrated in the case of the airline industry (2013) that inconsistencies in the core competencies identification and nurturing by airlines lead to performance heterogeneity among intra-industry firms following the same new BM. In their study of seventeen airlines developing a new service orientation, they show that airlines believe and project that they are service oriented, but fail to align core competencies accordingly, sill relying on inherited capabilities (e.g., logistical capabilities, reliability in operations, adoption of latest booking technologies etc.). As a result, competitive advantage for the new orientation is not sustained and BMI is hindered. Former core competencies have become more of a commodity: they do not bring substantial advantage in the new strategy. As authors point out: 'New airlines have an advantage over existing carriers in terms of innovating to service orientation because they are devoid of legacy indebtedness or an out-of-date business model (Wensveen and Leick, 2009)' (Nair S., Paulose H., Palacios M. and Tafur J., 2013, *The Service Industries Journal*, Vol. 33, Nos. 9–10, p. 967). Adding to this view, we find that the conception of work that prevails among core employees potentially favors or hinders the alignment of the new competencies for BMI. If maintained along former work representations, it carries a wrong view of the value proposition and can slow down adoption. If moving along new BM objectives, it is a factor for enhanced performance. For legacy businesses, this is an important factor to consider through the execution of BMI, requiring an eye on the micro-level as the source of core competencies.

7.3. MANAGING COMPETENCIES IN THE DIGITAL AGE: HR POLICIES UNDER QUESTION

From job description to skill identification

Informing digital competencies among the professional population of journalists, we see reconfigured competencies and new ones equally contributing to individual job performance. As an answer to Cheng's conclusions from 1994 that replacement of existing staff is necessary to change, our view from research is more balanced: if new staff may be needed by the organization to capture new digital competencies and diffuse them, the ability to sustain differentiation emerges from existing staff too – from their ability to reshape 'old' skills and knowledge. Hiring new people and helping existing staff to reconfigure their knowledge and skills are simultaneous requisites for organizations entering the digital age. This has direct impact over HR policies, from a managerial perspective.

Also, while the base to human resource management lies in the idea of individuals holding jobs (Lawler III, 1993), the new digital world is shaking old paradigms: with unstable job descriptions, soft skills gaining ground and blurred career perspectives, the job paradigm as central concept to employee selection, training and performance management (Ash, Levine and Sisturk, 1983) is under question. In this area too, traditional job-based HR policies face new challenges. Lawler argues that a competency-based organization may offer new and more flexible approaches to organizing. Calling on Peters (1992), he insists that service firms have been incorporating the concepts of skill-based organizing, with benefits in terms of flexibility and customer centricity. This conception has pervasively developed among HR directors and managers since then, and its relevance in today's context emerges as a finding from this study. The impacts are paramount: the vision entails an initial shift from job to skills description. It also triggers new selection policies, new reward schemes, distinctive performance evaluation, training programs and career development, etc.

In this broader context and time perspective – and linking back our research to the organizational level – we see significant practical benefits for contemporary HR policies in describing IDCs and the acquisition process of competencies

among individuals. By mapping both the processes and the competencies, we are potentially contributing to higher efficiency in selection and learning & development. More precisely, we are advocating for increased attention to Human Resource Development (HRD) in HR policies, building on results from our research. Human Resource Development traditionally aims at reaching superior individual performance (Clardy, 2007 – Swanson and Holton, 2001). From this claim, HRD is bound to identify and analyze the superior task proficiency characteristics of individuals in specific jobs (Burack, Hockwarter and Mathys, 1997 – Dooley et al. 2004 – Reagan 1994). Not only do we support the idea that identifying digital skills and knowledge is a prerequisite to successful HRD. We are also following Woodall (2005), in ascertaining that these competencies should not be regarded as individual qualities exclusively. The competency acquisition, development and retention processes at play among individuals (especially in the case of daily news in our field) appear critical to organizational transformation and competitive advantage. When reflecting on their jobs and competencies, informants have also been describing the benefits for the organization in a very accurate manner. Drawing on the rich information we were able to access, there are improved practicalities into core competencies for organizations: while we have been documenting the individual level, we have also brought information to the surface for higher digital adoption in firms facing change. New questions then arise: which individual competencies really matter to organizational core competencies? And how can we identify them? As reflected by Clardy, describing an individual competency is not enough to define a core competency, in the sense of the organizational theories we introduced earlier in this thesis. While some breakthrough results could be expected from HR policies in disrupted times, a key to efficiency is to know where to focus efforts, in order to sustain competitive advantage. So core competencies should be distinguished from non-core ones as a second step. And other parts of the organization should also be under scrutiny – not just the professional, expert order. These are potential further steps in research.

Advocating for soft skills recognition and development

Formalizing the different competencies for digital work and proposing a layered, concentric approach, we have shown the centrality of *technological ambidexterity*, *distribution and marketing* and *writing* for XXIst century journalism. We have also demonstrated how such central competency attributes influence a new conception of work in the sense of Sandberg, opening the way for faster, efficient alignment of individuals along new digital arrangements. Referring to our definition of technological ambidexterity and analyzing emerging material from our field, we have also insisted on the questions of proactiveness in IT experiencing, openness to new artifacts and attitude towards innovation – as opposed to fixed, acquired knowledge of specific devices. We want to highlight the importance of technological ambidexterity as a soft skill, and advocate for higher recognition and onboarding in HR policies. As outlined by Theurelle-Stein and Barth (2017), organizations increasingly recognize the role of soft skills in a complex, moving, and highly competitive world. However identifying and nurturing such competencies is not self standing. A first difficulty lies in the genuine definition of soft skills and their circumscribing. As Theurelle-Stein and Barth show from the literature, there is no proper consensus on what a soft skill actually is, and how it should be designated. Reverse definitions prevail, in the sense that soft skills are neither skills, nor knowledge. While some authors ascertain the term of *soft skill* (Bellier, 2004; Le Boterf, 2008) *behaviors* and *soft skills* can be equally found in academic production (Goleman, 1998; Roblès, 2012; Lazarus, 2013; Tadimeti, 2014; Venkatesan Iyengar, 2015). A rather simple way to define soft skills is to oppose them to hard skills, as Theurelle-Stein and Barth point out, the latter embracing technical competencies. Riggio and Saggi (2015) see some benefit in using the term of soft skills, as it allows a broad coverage of competencies, but they see it as rather vague term used primarily because there is no agreed-on framework for capturing this wide array of skills. We are following Theurelle-Stein and Barth in adopting the synthetic definition by Tate (1995), who describes them as the sets of behaviors that the person must have and be able to display in order to perform the tasks and functions of a job with competence. This being clarified, we are coming across additional weaknesses in the literature: scholars have mostly focused on soft skills examining the question of leadership (Plane, 2016).

However what we see from our field is a need for a broader recognition of soft skills among the core population of employees – and not just business leaders.

Once recognized and valued, soft skills need to be nurtured through appropriate HR policies. We have reflected on high level, conceptual difficulties for firms moving from the central job paradigm to a competency-based approach of work requirements. From here, we are also facing a number of practical constraints. Schwartzmüller, Brosi, Duman and Welpe have examined the key themes of change in work design and leadership entailed by the digital transformation, by conducting research among digitization experts (2018). Results indicate that changes in performance and talent management are one of the four key themes identified. But while competency requirements for increased technologized work are clear, how to align learning and development policies and tools remains problematic. From the survey, the digital workplace creates higher cognitive demands on individuals, with higher need for creativity and problem-solving competencies. The need for agility and lifelong learning derive from this renewed environment, and augmented resilience is becoming vital (Schwartzmüller, Brosi, Duman and Welpe, 2018). However when it comes to assessing, developing and measuring, and as opposed to hard skills, L&D and hiring policies do not easily cover the scope of soft skills mentioned above. On the one hand, the authors say, 'technologies such as virtual collaboration tools and shared documents lead to higher performance transparency. […] In line with this transparency and employees' temporal and spatial flexibility, leaders display a higher output orientation' (Schwartzmüller T., Brosi P., Duman D. and Welpe I.M., 2018, *Management Revue*, Vol. 29, Issue 2, p. 127)..But on the other hand, taking these requirements as a base for L&D means the classic, underlying vision of L&D has to shift. L&D is traditionally devoted to acquiring the knowledge and skills firms have identified as essential to new job performance. This is generally done through a top down strategic approach that unfolds into different areas and embraces HR policies and tools. Whether based on workshops, in-house built-in academies, e-learning or blended models, it is fair to say that L&D has gone more and more sophisticated in recent years under the pressure from digital. Learning management systems have been set up across the larger organizations to ensure a wider scope of learning offers is available to employees, and to measure outcomes. Still in the field of soft skills, L&D is

more about facilitating and developing an orientation of employees over time, while giving them the keys to higher autonomy. One of the digital experts interviewed by Schwartzmüller, Brosi, Duman and Welpe states: 'Missing competencies of employees need to be recognized and compensated for by means of training. […] Employees' strengths (competency profile) need to be known and aligned with the requirements. People become ill if they are over- or under- challenged.' As a result the authors claim: 'there is a new, reciprocal relationship emerging between employees' increased competency requirements and leaders' performance management: Leaders might engage in more personnel development to help their employees cope with increased job demands; developing employees should in turn reduce their felt job demands by helping employees to better live up to the requirements of their job (Arthur, Bennett, Edens & Bell, 2003)' (Schwartzmüller T., Brosi P., Duman D. and Welpe I.M., 2018, *Management Revue*, Vol. 29, Issue 2, p. 129). From a practical viewpoint, an illustration of this reciprocal relationship is brought by the adoption of a learning platform by students in a French business school – as exemplified by Theurelle-Stein and Barth. In this specific case, the development of soft skills among students has been supported by an initial survey. Students have been asked how they think soft skills can be best acquired, and what matters in the development and recognition process. Their opinions have been onboarded during the platform specification phase. A broad referential of seventy different soft skills have been uploaded onto the platform (e.g. adaptive skills, empathy, team spirit, creativity, autonomy, etc.). Students have been asked to build their own personal path to soft skills development, by picking up ten out of the seventy skills. They are then selecting their own actions and measuring progress by themselves for each soft skill they chose. Progress is finally measured through self declaration and peer recognition together. In parallel, a collective dimension is added: students have an option to register for community membership. These communities also foster soft skill acquisition. Typically, the sixteen student associations on the campus are part of these communities. Their members collectively decide upon the soft skills they want to favor through project management. Progress by members is measured in the same way, using actions that exemplify results. The overall underlying approach is based on five concepts:

- The definition of soft skills, that led to establishing the list of the seventy soft skills available to students,

- A constructivist approach of learning, meaning soft skills are taken from real-life situations and business games alike,

- A socio-constructivist approach of progress, meaning that communities of practice, coaching techniques, peer assessment and 360 degree feedback are privileged,

- A reflexive approach from learners: students should develop reflexivity and empower themselves for higher return, they are self regulating their effort and measuring progress on their own,

- Experiential learning: importance of team work and the valuing of soft skills in every work-life environment.

Reflecting on this specific, innovative case, we want to highlight the vast potential from augmented soft skill recognition and development in a transformation context. Translating the approach above into the organizational settings of disrupted industries may be no easy thing, but there is high value to be taken. Above all, it requires a shift in the classic L&D approach as mentioned above, in the sense that it encompasses traditional views along job definitions and job components. Even prior to that, there is a need across organizations to fully acknowledge the magnitude of the transformation. As Vey, Fandel-Meyer, Zipp and Schneider suggest in their 2017 article[8], there are four reasons why transformation is hindered: (1) the impact of advanced digitization is not fully recognized; (2) there is a lack of imagination and strategy, coupled with increasing unpredictability; (3) a lack of agility and insufficient encouragement towards innovation; and (4) a lack of pertinent competencies and insufficient innovation culture. As an answer, the authors are advocating for new roles and action areas for L&D departments. They are suggesting a change in the

[8] Vey K., Fandel-Meyer T., Zipp J.S. and Schneider C., 2017, 'Learning and development in times of digital transformation: facilitating a culture of change and innovation', *International Journal of Advanced Corporate Learning*, Vol. 10 Issue 1, p22-32

positioning of L&D professionals, who in their view should become change agents and consultants, designers of an enriched learning portfolio of products and services and shapers of innovation culture. Our findings from field tend to indicate there is real urgency in taking this requisite seriously. We have seen individuals displaying a high propensity to learn and adapt their skills to digital. But we have also found them alone in the storm. News publishers are still way behind in terms of L&D infrastructure to make full benefit of the change. As Le Boterf summarizes in 2006, reflecting on the fuzziness still attached to competencies in the literature: 'Competency is a weak concept for a strong stake'. Despite this recurring difficulty, we have exemplified (1) the willingness of individuals in the change process, (2) the benefits from competency change for organizations, (3) the best practices that may lead to actionable results. Conditions are met for more businesses to fully integrate the competency dimension into their collective functioning.

7.4. THE SELF-REINVENTION POTENTIAL OF PROFESSIONAL BUREAUCRACIES

Our research reveals that a professional bureaucracy transforms its competencies by reshaping those of its members. Our empirical results suggest that the transformation of competencies within a professional bureaucracy is the effect of a vigorous adaptation process from individuals: it is triggered by people from the inside as we reflected earlier. It takes shape concretely among individuals as they act and get familiar with tools, calling jointly on the old and new worlds. This is remodeling the bureaucracy in return, extending and reshuffling capabilities in a continuum from the core. Augmented organizational competencies are created from the core while reconfigured ones are being adapted. By investigating competency phenomena within the boundaries of the operating core, we have deliberately not informed the transformation processes at play from other parts of the organization. However all parts may sustain and help the adaptation process, as an extension to our observations and results.

By placing ourselves in the organizational design of professional bureaucracies (Mintzberg, 1981), we deliberately chose a setting meant to stretch contextual factors. By conducting research among the professional population of

journalists, in a sector severely hit by the digital turnaround and plagued with economic difficulties, we were somehow building a worst case for the redefinition of individual competencies. Our findings were expected to emerge from rather doomed individual prospects. Every parameter we chose was apparently in the red zone. From this context, a first significant outcome from research is that journalism is not dead. As a profession, the bureaucracy may be undermined by some crucial questions. It may be striving for its future in what Arnaud L.G., our informant from the economic daily Les Echos calls 'the age of access.' But we find it incredibly active and engaged redefining the scope and shape of journalistic skills, questioning business model alignment and organizational settings, and eventually proposing solutions for XXIst century journalism. Our research contradicts expectations, in the sense that individuals commonly expressed optimism around the future. They did not minimize the impacts – in terms of the number of journalists who will be able to stay in the business, or the number of publishers bound to disappear. But they showed confidence in the resilience of the profession, as well as its distinctiveness. And this is transcending generational membership: it was equally reflected by professionals in their thirties, forties or fifties.

As a result, the professional bureaucracy is showing strong reinvention potential against all odds. As a reminder, and according to Mintzberg (1981), professional bureaucracies are characterized by the standardization of skills and the key role of the operating core. A good deal of power is surrendered to the core by the strategic apex, while the techno structure appears limited both functionally and in size. Training and indoctrination are ensured from the outside of the institution, and the professional population operates in a decentralized manner. From their attributes, professional bureaucracies have been consistently seen by scholars as a type of organization bound to resist change. This has been reflected over time, from the 1970s till today (Ehrle, 1973; Leitko and Szczerbacki, 1987; Cheng, 1990; Harvey et al., 2013). In the 1970s, Ehrle was ascertaining that professionals face both 'the terror of maintaining continuous credibility and the boredom of bureaucratic stagnation'. Later in the 1980s, Leitko and Szczerbacki were analyzing the failure of organizational development in professional bureaucracies as the result of decentralized decision making, unwillingness to exercise authority and lack of sufficient authority to gain compliance. While

examining change processes in the professional bureaucracy, Cheng found that change would inevitably involve either 'replacing existing staff with people sympathetic to the change' or 'convincing and motivating existing staff to implement the change'. Closer to our study, Harvey et al. have been exploring communities of practice (CoPs) within professional bureaucracies, by informing the case of a labor union (Harvey et al., 2013). Findings suggest that communities of practice, while structured and conceptualized along innovation in knowledge management (Lave and Wenger, 1991; Wenger, 1998; Wenger et al., 2002), do not serve well these purposes in professional bureaucracies: emerging forms of cooperation and knowledge sharing are actually hindered within this organization form, the authors find. Summarizing previous streams in research, we are coming across a strong sense of pessimism around the reengineering capabilities of professional bureaucracies in the literature. If the propensity of organizations to successfully embrace change is considered low in the literature as early as in the 1970s (Kaufman, 1971; Walton, 1975), the professional bureaucracy design makes it even worse. This is summarized by Autier (2001), who states that: 'One claim has been pervasive over the past decades in the management field: bureaucratic management systems, alternatively named 'bureaucratic' (Bennis, 1966; Mintzberg, 1981), 'monocratic' (Thompson, 1969), or 'mechanistic' (Burns and Stalker, 1961) management systems are damaging for the production of innovations within established companies. As they rely on individuals' specialization around tasks, fixed operative rules, tasks focused control, and hierarchical authority, they are considered to impede organizational members to come up with new propositions and develop it. The general wisdom thus considers that if bureaucratic management systems are appropriate for routine type of activities, they are definitely not for innovation (Burns & Stalker, 1961; Mintzberg, 1981; Galbraith, 1982; Perrow, 1986; Souder, 1987)' (Autier F., 2001, *European Entrepreneurial Learning,* 14, p. 2).

From our study, this vision needs to be balanced. While the prospects in the industry we have been studying remain blurred and problematic, professionals have been engaging into competency change without terror. The decentralized pattern of the professional bureaucracy has not been found to hinder change and development. Rather, it is allowing non-authoritative experience sharing and

individual iterations through knowledge and skills. As a matter of fact, digital is not about compliance, nor authority. It is about usage. As a consequence, the loose functioning, self-regulated professional population at the core of the bureaucracy is showing significant learning and adoption capabilities when it comes to digital. Competency change is no easy thing, and we are not minimizing the pitfalls. But what we are witnessing confirms the findings by Amin and Cohendet (2004) that radical innovation occurs through engagement and enactment and through the alignment of elements in a new script of organizing and acting. Tools have been shown as central elements in this alignment process. While interaction between individuals and tools triggers the dynamics of competencies, we find some interesting convergence with the outcomes from Raviola and Norbäck (2013). As we noted earlier on the case of Il Sole 24 Ore, a business newspaper in Italy confronted to change, the authors find that the institutional work of journalists is performed by means of both old and new technologies. If new technologies trigger institutional work by proposing new actions that need to be meaningful by the journalists, old technology functions as a 'law book' where the institution of the business news is inscribed. As an additional indication of how innovation is taking root, communities of practice are being set up inside the professional bureaucracy as a way to learn and foster digital competencies – contradicting outcomes by Harvey et al. These communities are also connected externally, forming part of an online, horizontal network. Evidence is brought that the professional bureaucracy is no obstacle to technological ambidexterity and digital competency acquisition through practice sharing.

With respect to institutional work redefinition and the symbolic function of 'old' technology, we want to add that the pattern described by Raviola and Norbäck at Il Sole 24 Ore applies to the different organizational settings from our field. It is reflected by most informants, regardless of age or firm. Digital natives reflect it as well: while they have not been confronted to a pure print digital workplace, they often have to fulfill tasks for hybrid production modes. But above all, they are entering the job with a sense of what journalism means historically, and what it was requiring before. This forms part of a common 'legacy', which means institutional work is still represented among the younger generation. So that the distinctive settings that contribute to the historical definition of the bureaucracy

and its maintenance over time are still vivid. Stating this, we are aware that we are looking at a transition. The ‘law book’ function of old technology may fall into dereliction in a decade or so. And the new design parameters will then be the common horizon of a redefined bureaucracy. The expert role of operators will be sustained along new arrangements. As one of our informants says, ‘The real millenials have not even entered organizations yet. They are finishing their studies.’ But even today with the transition still taking place, some of the convulsions that shook the bureaucracy and brought spats to the newsrooms seem to be over. Extensive quotes were provided by our informants on this sometimes brutal adjustment process; some reflected on the image of ‘low cost journalists’ that goes along with digital, others used expressions like ‘news pundits’, or ‘the aristocracy’ to qualify older, expert journalists. In most news organizations from our field however, the fight was most intense from 2005 to 2010; our digital native informant Anthony described it at the France Soir news desk as he was an eighteen year old trainee in 2008. Laurent, from the free daily 20 Minutes provided in-depth testimonial on the merging of digital and paper workflows in 2007-2008. While a number of defensive players have not fully shifted to digital yet, the majority has. So this central step in the redefinition of the bureaucracy along new work parameters has been accomplished now from an institutional and collective standpoint.

Conditions for a reengineered bureaucracy

From our research, we find two necessary conditions for the bureaucracy to adjust to digital, and these conditions appear as strongly linked together. The first condition relates to power structures from the inside of the organization. It is reflected by Arnaud: […] ‘This is an authentic Copernican revolution, because until now the hierarchy in the media lies in the hands of the news pundits. They might be brilliant, but the media of tomorrow should not give them the keys, from an organizational standpoint. They should give them to those who know. The big names, they will be the aristocracy. But in terms of power, it should be the equivalent of a constitutional monarchy.’ This was further illustrated by many other informants: Géraldine, from a B to B daily, explained how she had to struggle (and eventually leave) trying to impose a service-based model from

news production. Again, what we are witnessing here is a transition. With respect to power structures in news publishing, our research does not suggest a shift in organizational design parameters applying to the bureaucracy, at least for the time being. Empirical outcomes do not bring evidence at this point of a new balance between the strategic apex and the core for instance – power is still largely delegated to the core professional population. However, we find digital competencies at the top of the organization to be a factor for accelerated shift towards digital BMs. This means organizations should empower journalists with digital skills (namely, technological ambidexterity, distribution and marketing skills, understanding of SEO and social network requirements etc.) and value these skills, rather than domain expertise. Arnaud's comment is self-explanatory. In the new world, there may be more gain to expect from augmented digital competencies in the strategic apex (especially from the two new, overwhelming competencies we described) than from long experience in the news. This is a clear challenge to traditional organizations, especially in the local French context where being a prominent journalist for the 'noble' news domains like politics or society has often been the major gateway to power. The second condition for accelerated transformation is connected to this shift in individual profiles at the top. It has to do with business model innovation, the creative skills that go along with it, and the ability to capture insights from the core population for efficient decision making. Indeed, we find creative thinking along BMI very high among our informants, suggesting that a large proportion of the bureaucracy's reinvention potential is dependable on the exploitation of these resources. However the ability to make use of these assets very much lies in the hands of the power structure. Decision makers should nurture open, bottom up creativity to identify, select and promote the best strategic options (or, referring to BMI theory, to *sense*, *seize* and *configure* – and we will discuss implications further within BMI). No doubt the vast majority of BM creative thinking in the professional bureaucracy is to find among the core population itself. Its capacity to benchmark, study and experience is a goldmine. Almost all of our informants reflected on BMs and shared views, giving access to incredibly rich material from field, able to inspire organizations. One of our most contributive informants in this respect was a twenty eight year old journalist, whose interview transcription has been partly translated and is displayed in appendix H/. This leads us to say that the reengineering capacity of the bureaucracy is both high

and actionable, and that it relies on the micro, individual level to a large extent. In a sense, BM thinking is becoming a competency of its own among journalists. It has not been listed in the new IDCs because it is not a competency that sustains journalistic task completion for digital. However we may describe it as an overarching competency, deriving from a combination of factors: high reflexive activity from a profession onboarded into change and concerned with its future, along with some of the phenomena we described earlier – lower boundaries between journalism and business, need to integrate the distribution and marketing requirements into daily work, etc.

XXIst century journalism: from bureaucracy to adhocracy?

Examining the reshaping of competencies within the professional bureaucracy, we find organizational design parameters however strongly challenged and stretched by processes at play. So the adjustment process we have just described may not correspond to the reengineering of the professional bureaucracy, rather, it may indicate a shift of journalism into a new form of organizational design. As summarized by Luneburg (2012): 'Mintzberg suggests that the strategy an organization adopts and the extent to which it practices that strategy result in five structural configurations: simple structure, machine bureaucracy, professional bureaucracy, divisionalized form, and adhocracy' (Luneburg F.C., 2012, *International Journal of Scholarly, Academic, Intellectual Diversity* Vol. 14 (1), p. 1). In Mintzberg's approach, and as explained further by Luneburg: 'The *adhocracy* has the support staff as its key part, uses mutual adjustment as a means of coordination, and maintains selective patterns of decentralization. The structure tends to be low in formalization and decentralization. The technostucture is small because technical specialists are involved in the organization's operative core. The support staff is large to support the complex structure. Adhocracies engage in nonroutine tasks and use sophisticated technology. The primary goal is innovation and rapid adaptation to changing environments. Adhocracies typically are medium sized, must be adaptable, and use resources efficiently.' Strikingly, a number of changes that have been reflected by informants from our field seem to coincide with this definition. The low formalization and decentralization pattern applies to the pure player news

publishers. And mutual adjustments have been quoted as a new way of working to ensure the news flow. So the question behind the lines is: has the bureaucratic form of journalistic organization failed, at a time routine work is no longer sustainable? Adhocracies typically define as the form organizations adopt when standardization of work or standardization of skills fail, because they allow mutual adjustments to happen (Mintzberg, 1979). Birkinshaw and Ridderstrale are emphasizing the organizational fit provided by adhocracies to what they call 'an agile age' (2015). Mintzberg had been describing adhocracies as 'better equipped for the future' than other forms of organizations. Further research has established that more and more firms are adopting the adhocracy model (Faust et al., 1994 – Schirmer and Staehle, 1990). And Birkinshaw and Ridderstrale are describing the adhocracy as an action-centered model, appropriate when levels of unpredictability are high, coordinating activities around problems or opportunities, deciding through trial and error and stretching goals and recognition for achieving them. It is tempting to state that the shift we are observing is a move in design parameters towards those of an adhocracy. However we want to highlight a number of differences with the definition of adhocracies – that should prevent us from formulating a definitive answer at this point. Firstly, journalists as a core professional population remain at the center of news publishing organizations so far, and this is equally true for established businesses and start ups. And secondly, we are not witnessing a move towards extended support functions either, that would gain a primacy on strategy formulation and enactment. To a certain extent, this also underlines some of the conceptual weaknesses in the definition of adhocracies, as well as a tendency from scholars to oppose bureaucracies and adhocracies. This is reflected by Autier (2001)[9]: she argues that the bureaucratic 'ideal' type is well characterized in the literature, while the 'adhocratic' type is not. She insists that there are no clear descriptors for the adhocracy, which merely defines along what it is not: 'Adhocratic management systems are mostly described by management scholars on the basis of what they are not rather than on what they actually are. Inverted definitions dominate, stating more why adhocratic systems depart from the referent ideal-type than by stating how they actually operate' (Autier, 2001,

[9] (Autier F., 2001, ''Bureaucracy vs. Adhocracy: a case of overdramatisation?' *European Entrepreneurial Learning,* 14, p. 2)

European Entrepreneurial Learning, 14, p. 2). And she adds: 'Moreover, whereas bureaucratic management systems failures in innovation management are extensively documented (Crozier, 1963; Crozier & Friedberg, 1977; Galbraith, 1982; Dupuy, 2000), adhocratic management systems successes and failures are not much investigated with the exception of a few success stories (Kidder, 1981; Zachary, 1995)'. Drawing on a longitudinal case study in the video game industry, the author suggests that adhocracies do not define as a self-standing alternative to bureaucratic management systems, but rather a variation of the latter that tends to produce a 'paradoxical management system'. In the case of journalism, just as in other industries facing massive disruption, the question that derives is the maintaining and efficiency over time of new, under-specified and lowly formalized organizational systems where individual roles are kept both broad and flexible. In other words: is the apparent fit to the loose concept of the adhocracy an effect of our difficulty in conceptualizing new emerging forms of organizations? Is it an effect of the transition to digital? Or are we witnessing an enduring phenomenon? Answers to these questions may require additional investigation over time. Evidence of the shift in organizational design is collected, final outcome is still blurred.

7.5. OPENING ONTO THE SOCIOLOGY OF JOURNALISM

Continuities in the historical sociology of journalism

Using the phenomenographic approach to capture insights on competencies, we chose to inform the conception of journalistic work along Sandberg's view. A natural development from this research consists in looking how 'new journalism' in contemporary settings– which we have found to rely on a renewed conception of work – is affecting the former sociology of the press. We do not have an ambition to provide a comprehensive approach to the sociology of modern journalism in this section – it is a vast field in itself requiring more in-depth reflection. Rather, we want to pinpoint some of our findings, calling for further questions and investigations in the light of prior sociological considerations.

In the methodology section of this thesis we have briefly reflected on sociology and the imprint of Weber's approach as he studied late 19th, early 20th century journalism. Looking at the disruption brought to the formation of the news by digital technology, we see remarkable parallels and continuities with the massive changes that affected the newspaper industry during the industrial revolution. Weber had strong reasons to conduct sociological research on the press and its impact on the formation of public opinion at that time, as Dickinson underlines (Dickinson, 2013). Weber's investigations at a moment of paramount transformation involved examining the individual role of journalists themselves. 'His observations were driven by his own experiences in journalism and his frequent encounters with newspaper proprietors, editors and fellow contributors to the German press', Dickinson explains. In Weber's writings, these means of investigation have produced intense reflection on the professional status of journalists, their responsibilities and values. As an insight into Weber's considerations on journalists and following Dickinson, we are displaying two citations: 'The journalist shares the fate of all demagogues and moreover also that of the lawyer (and the artist) in that he lacks any fixed social classification; […] He belongs to a kind of pariah caste that 'society' always judges by those of its representatives with the lowest ethical standing. […] Not surprisingly, it is precisely the irresponsible journalistic products that stick in the memory, on account of the terrible effects they have.' (Weber [1919] 2007: 174) And in relation to the moral reputation and image of journalists: 'No one at all believes that competent journalists are, on the average, more discreet than other people, and yet it is so. The quite incomparably greater temptations that this profession brings with it, and the other conditions of the journalist's work today, have produced results that have accustomed the public to regard the press with a mixture of contempt and pathetic cowardice.' (Weber [2019] 2007: 174).

From the above, continuities in the debate on XXIst century journalism are simply striking. The pervasiveness of structuring elements like the capitalistic ownership of the media, the dialectic tension between political consciousness as a final aim for journalism and entertainment (or infotainment) as an end-product, and the suspicion over journalistic ethics is obvious. The dividing lines along which the discussion organizes in contemporary settings are extremely vivid. The quotation by Weber that we just displayed could have been formulated

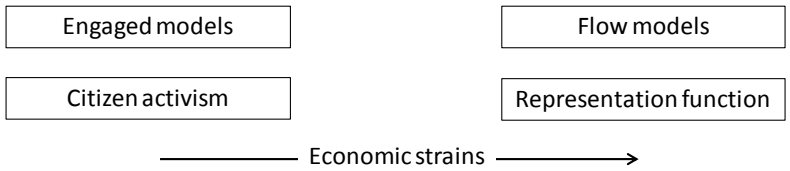
today: the XXIst century public takes the same critical view of the press, with the same 'mixture of contempt and pathetic cowardice'. While the intensity of the debate had somehow dropped in the 80s and the 90s, it has been reinvigorated since by the emergence of digital and its sprawling effects on the formation of opinion. As Dickinson underlines, Weber's writings clearly contain a defense of journalism against mainstream social critique, at a time commercialization was putting the professional role at threat. Again, the parallel with today is outstanding. As an illustration from our field, we are quoting Henri V., a senior editorialist for newspapers and TV channels: 'There is distrust of journalism, and more generally of everything intellectual. The media, and intellectual production, are becoming secondary. All the suspicion, all the conspiracy theories, this is devastating. Even journalists themselves are impregnated. They have this tendency to think 'we're being lied.' This is damaging critical sense, and there is a general lack of goodwill.' Weber was advocating for the sense of responsibility of journalists, which he saw as a defining characteristic of the profession. Needless to say, this was not the dominant view – and nor is it today. As another indication of persisting continuities though, we have found journalists in our research to constantly question ethics and reflect on their practice with deontology in mind. Although we have seen ethics as a background more than a formalized piece of knowledge for digital journalism, we have also found it distinctive to journalism, as opposed to other forms of content production. And this has proved equally true for senior and younger journalists: regardless of generational membership, journalists reflected on ethics as strongly contributing to professional identity and distinctiveness.

Similar structures, renewed forms

As highlighted above, structuring elements for the sociology of XXIst journalism appear rooted in the same fundamentals, comparatively to those of the industrial revolution. They are reactivated by the technological transformation. However digital journalism organizes along renewed forms generated by the Internet, which differ from industrial era mass information

characteristics. Attempting to translate our representation from diagram 5/ (see p. 80) in contemporary settings we are proposing the following:

Diagram 24. Structuring elements in the sociology of digital journalism



With respect to diagram 5/, continuities speak for themselves. However we are suggesting that journalism as a product of 'men of letters' with an education role has shifted to an engagement model, whose role lies in unveiling major stories and adopting a reflexive stance on contemporary issues. As opposed to this, mainstream flow platforms sustain the same function as the mass media of the XXth century – they are ensuring a societal representation along public expectations. There is undoubtedly a difference in size between the two ends of this representation. Flow models are vastly dominant, and, just as the mass newspapers of the late XIXth, early XXth century, they are capturing much of the audience and the value from information.

Proposing this view, we are naturally calling on the material from our research and more specifically on our categorization of online business models (pp. 134-135: flow model, service model, engaged model). In many ways, service models represent a variation of the flow models, in the sense of a diversification from the flow – and as such they can be aggregated with flow models under the sociological lens from this section: journalistic purpose does not differ in nature. Regarding this typology, we want to add that the dividing line between models is a major concern among journalists. It is intensely reflected through public debate and in the profession. Not only is there a stark discussion on the economic viability of models. There are also ongoing struggles on the conception of journalism linked to models. We have been informing underlying conceptions through micro-practices in this work, but they aggregate into a sociological

dimension too, which is shaping along renewed forms. Journalistic competencies are progressively organizing along models. Although we have been investigating competency patterns from a performance viewpoint – and not according to the journalistic purpose of models – we have collected indications of the new emerging arrangements. These arrangements question the future sociology of journalism, in that they suggest an alteration in the role of journalists themselves. Again, we want to quote Emmanuel J. on this matter, describing his journalistic work for a brand: 'Now giving it second thoughts, yes, I'm doing journalism, the news I'm producing is right, it's verified. Maybe now this is journalism too. Maybe now a journalist is someone who produces news for a brand and not for a news publisher. At the end of the day, the news I'm doing for Salesforce, well it could be published by a newspaper or a magazine. So yes, now I'm realizing this is journalism.' And Anthony M. is adding to emerging typologies of journalistic work (see full quote we displayed in section 7/ b/, p 133), along three distinctive activities: Doing the marketing job for brands, doing instant news, or reinventing relations with readers based on community funding.

Course alterations in the sociology of journalism

Highlighting historical continuities, we do not want to underestimate the magnitude of the transformation from digital and its impact on the sociology of journalism. Digital operates in several ways: (1) It is fragmenting the formation of public opinion, (2) depriving journalists from their primacy of news production, and (3) abolishing professional control. One of the most senior journalists from our field, Arnaud L.G., is describing this conjunction in his own words: 'The first revolution has to do with 'the age of access'. There are no limits. For a journalist looking for news and ways of checking the news, it's a new paradigm. The second fundamental change – and this is when a number of media started to get into trouble – is that access is not just on our side, it's on the public side, our customers' side as well. Meaning it's volatile. So we're losing control. The third thing with the Internet is the upheaval in our business model.' Comparatively to the emergence of mass information at the turn of the XXth century, a major consequence from the digital breakthrough lies in the ability

brought to all citizens to become news producers and easily reach an audience. This is questioning the very nature of mediation – and the sustainability of a professionalized mediating role, or at least its characteristics. As Arnaud L.G. summarizes, 'The status of journalists has changed and this has to do with the socio-cultural disruption I was explaining to you earlier. It has to do with the loss of their privilege – being first on the news. You can even date this: the Bombay attacks in 2008.' With respect to professional roles, we have illustrated how fragmentation in the formation of opinion, the loss of journalistic primacy in new production and the abolishment of control are simultaneously affecting former roles and representations. A comprehensive sociological approach of contemporary journalism is provided by Shoemaker and Reese in their referential book, 'Mediating the Message in the 21st century' (3rd edition, Routledge, 2014). Interestingly, and with respect to these questions of roles, authors are citing the work by Cohen (1963), and Johnstone et al. (1972), who 'distinguished between neutral and participant roles that reflect how the journalist relates to the information' (Shoemaker and Reese, 2014). Taking the view from our previous section and from diagram 24/, we find good theoretical fit between the notions we have proposed of 'engaged' model and 'flow' model for online news, the underlying journalistic function in these models, and the neutral and participant roles by Cohen and Johnstone. Weaver et al. (2007) refined the approach by Cohen and Johnstone further, and suggested to include additional journalistic functions: the disseminator function, the interpretive function, the adversary function, and the populist mobilizer function. The variety of contexts from news production, as well as the uncertainty with models makes it difficult to know whether these roles will crystallize or evolve over time.

Looking forward and a final note into this section, we want to emphasize the importance of professional control, and the questions it raises for the future of the profession of journalist. Scholars are investigating these domains, examining how control is actually exercised through practice. Schifferes, Newman, Thurman and Corney have conducted research on the tools journalists think they need to cope with the growing volume and complexity of news on social media, and what improvements are needed in existing systems. Research was backed by a European Union research project (Social Sensor), involving computer scientists, journalists, and media researchers, with a purpose to design a new tool

to search across social media for news stories, to surface trends, and to help with verification (Schifferes, Newman, Thurman and Corney; 2014). This is bringing evidence of a new, collective and institutional interest in matters of control over information. Opening the perspective, we finally want to reflect on the adaptation of journalistic practice in the emerging digital world. As Lewis notes (2012), 'Amid growing difficulties for professionals generally, media workers in particular are negotiating the increasingly contested boundary space between producers and users in the digital environment.' Examining the tension between professional control and open participation in digital news production, he finds there is a path for journalism as a middle way: 'Journalists have struggled to reconcile this key tension, caught in the professional impulse toward one-way publishing control even as media become a multi-way network. Yet, emerging research also suggests the possibility of a hybrid logic of adaptability and openness – an ethic of participation – emerging to resolve this tension going forward' (Lewis S.C., 2012, *Information, Communication & Society*, Vol. 15 (6), p. 836).

We have attemptedly informed individual core logics and conceptions for digital through this work, and linked them to broader levels of analysis, on the claim that innovations need to make sense to people in order to find their way collectively – in organizations and in society. In the reshaping of the profession at large, individual experimentation from the ground has emerged from this research as a constant source of inspiration and adaptation.

8. LIMITATIONS AND FURTHER RESEARCH

Certain limitations to our study come as a consequence from research design, and this is offering room for additional exploration.

Firstly, investigating digital competency-related phenomena in other configurations of organizations is a natural development for generalization, beyond the specific setting of the professional bureaucracy. More precisely, investigations could primarily focus on divisionalized configurations, where a variety of business units are being operated. An interesting approach in such configurations (found primarily in large scale, multinational companies) could

consist in looking at how competencies shape in the different activities and look for cross-business enhancing factors and core competencies. Some industries and sectors offer more valuable insights because they are strongly impacted by digital in their value chain: hospitality, retail and distribution, or professional services are just examples. Among other configurations of organizations worth exploring, adhocracies come as another option, especially as they are bound to offer an environment prone to competency adaptation, flexibility of work and agility – therefore offering room for best practice detection.

Secondly, and due to the limitations from design too, we see further research in the same industry of news publishing, along the typology of BMs we have inferred from our field. Based on the same methodology, we are suggesting a sample of journalists in the three categories of BMs we have identified according to their value proposition: flow models, service models and engaged models. As explained earlier in this thesis, we have been investigating the link to performance using a taxonomy which is in place, based on descriptors of BM adoption. While this has allowed us to inform the transformation model and look for congruence within digitally advanced firms, we think an interesting development would be to examine the specific competency patterns that relate to distinct value propositions. Discourse analysis from our field suggests there are distinctive skills mobilized for each model. However these are initial indications, which need to be confirmed through design. In this direction, both the transformation model and the resulting skill sets may emerge as distinct, which may provide significant and actionable outcomes. The conception of work, along Sandberg's view, may also be informed more accurately, and several conceptions may potentially emerge in this design, adding to this field of research too.

Another promising direction is the use of case studies to inform the specific factors favoring competency change at firm level in more depth, and examine the resulting configurations. As noted in the methodology section, the view on core organizational competencies from this research contains biases, which have been identified: it is inferred from individuals in the core professional population only. This is a clear limitation of our research – also because the organizational dimension is explored through individual discourse exclusively. In other words, it is not sustained further by interviews in the supporting functions (marketing,

finance, IT, sales etc.) and among the exec team, or by examining available data from firms (strategy presentations, P&Ls, sales documentation, etc.) and making direct observations on site. Observation could usefully complement discourse analysis, by confronting the reality of micro-practices to what people say – therefore inform implementation. In this suggested design, higher linkage could be expected between individual level competencies and organizational level core competencies.

Exploring competencies among non-core populations is of significant interest too at organizational level. Other categories of staff contribute to sustained competitive advantage as well; so that knowing which competencies matter among marketing & sales people, technology teams or support and decision-making functions is essential – especially as functions and tasks tend to merge and reshape, and boundaries are getting blurred. Additionally, and as a development from the typology of BMs just mentioned, firms in this design could be selected according to the different BM categories (flow/service/engaged). Similarities and differences between firms could be analyzed along this categorization. Alternatively, action research offers different means of investigation on competency phenomena at firm level. In this option, the selected firm should be highly insightful (either because it displays a highly innovative BM, or is particularly successful in implementing BMI – and the media landscape certainly offers such opportunities).

Lastly, significant outcome was collected in this research relatively to the training and professional education of journalists – that could be exploited and refined further. This opens onto the questions of training and 'indoctrination' (in the sense of Mintzberg) in the professional bureaucracy setting. Natural development from this work includes field research in professional schools of journalism, examining how the transformation of professional education affects competency change for digital. There is an HRD perspective worth investigating as an additional development in this direction: the questions of knowledge management, experience sharing and how to foster innovation (see: du Chatenier et al., 2010 – Godbout, 2000) have been identified as important in this research, while poorly supported and documented. There is room for higher managerial guidance in this respect. ◊

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APPENDIX A

New competency requirements at *Sud Ouest,*
France's #2 regional daily in 2011-2012:
An introductory case to ground research

As an introduction to the scope and impact of the issue, we are briefly elaborating on the case of a well established, privately owned journal covering the South West of France. Data were gathered during a social audit in 2011-2012, based on semi-directive interviews and internal documentation.

Sud Ouest is one of France's top selling regional dailies (ranking #2 in this market segment with a circulation of 261,566 paid copies in 2014, below the #1 title *Ouest France* – the latter with paid circulation totals of 714,995). The management team at *Sud Ouest* decided to implement a full bi media business model in 2011 and to merge the workflows of print and web publishing throughout the whole editorial organization. Prior to the decision, digital content was managed through a separate entity via a dedicated web desk (relying on content provided by the print teams).

In the roll-out of the bi media business model at *Sud Ouest*, editorial teams in the 17 different local news agencies were asked to produce simultaneous content for the printed and digital versions of the journal in a single workflow, following a pattern already explored by other print media beforehand. The new role of editorial staff as defined at corporate level was transformed, in order to feed paper pages, website pages in the local editions and *Facebook* local community pages at the same time, through multichannel approach and a unified processing of information. Journalists were also asked to twitt and create communities of followers.

The plan was implemented using a pilot phase in two distinct local news desks in the medium sized cities of Agen and Mont-de-Marsan over the last quarter of 2011, then was deployed throughout the whole territory of South Western France. Specific guidelines describing daily task requirements, workflows and quantitative assignments to journalists were produced, outlining detailed roadmaps and describing target processes in much depth ("from 8.30 to 9 am, field journalists (X) should be dedicated to specific tasks, then online editors (Y) – (this new job description applying to former print editorial assistants) – should review and redirect content to the central news desk people (Z), while feeding the local social media pages before lunch break" (time when online readers are taking a moment away from their job, having a look at their FB page).

The temporality and quantitative aspects of change were explicitly brought as objectives to editorial staff members in preparation meetings. A separate documentation was produced in order to detail the deontological requirements applying to online content production.

All journalists were given *Samsung Galaxy S4* smart phones as new professional tools in order to capture text, videos and photos, and post rich media content on various internal repositories instantly. They were asked to produce short messages and comments with a maximum allowance in number of signs, when dealing with the news out in the field. The choice of *Samsung* was made by the CTO, on the evidence that it provided a well established *Android* standard, reliable over time and compatible with the different content management systems already in place.

The underlying assumption was that the equipment rate in smart phones in France (27.7 million owners according to the Mobile Marketing Association in the 6th edition of their annual survey) and the predominance of Android in smart phones and tablets market share made it an obvious choice for the CTO, other Board members and project teams. "Everyone has a smart phone now" sounds like a truism: as a consequence "every journalist should make easy use of the functionalities of a *Samsung Galaxy S4"* is the logical outcome. The question of the competencies required to use a smart phone in the specific professional context of news publishing, with respect to the acknowledged competencies of individuals was not showing on the map. Using a smart phone is an obvious skill that every person had in 2012 regardless of education and which could reasonably be seen as a fact; however making news through the professional appropriation of the device is a totally different socio-material issue. What it meant in terms of readiness to change proved to vary greatly from one individual to another.

Surprisingly in the roll out process and as quoted in the interviews, easiness of adoption did not prove to be systematically linked to age or even "fluency" with technology but rather to the understanding and acceptance of the new role to be fulfilled, as opposed to existing representations on the historical skills requirements for a journalist, like: being capable of sourcing and selecting information, checking the validity of facts, being good at writing, being able to submit personal contributions to the chief editor and 'sell' the interest of a paper, following a managerial, vertical order. These traditional competencies proved to be the key drivers of individual behaviour for many journalists and some of them reacted strongly against the new assignment: "this does not reflect my

full skills", or "they do not need [someone like] me to do that kind of stuff" were among the quotations from the interviews. Other quotes included "I feel much more at ease with my IPhone – would rather use *Apple* than *Android*" (*IPhones* being socially more desirable to this population, most of them were already accustomed to IPhone navigation).

Interestingly in the case of *Sud Ouest*, digital audience was already among the highest in regional dailies, as measured by the national statistical body of the French press, *OJD*[10]. In 2014, *Sud Ouest* ranked #26 among French websites of all categories with 14.6 million monthly visits. However the lack of consideration for competency requirements led journalists to feel that were now being put into a low-cost, low added value model, not relying on their specific skills and not capturing their capabilities in making news.

As a consequence, a social audit on the potential consequences of change was asked by the Safety and Working Conditions Council – as permitted in such case under French labour law. The roll out took longer which damaged the dynamics of change, but some key issues were tackled and put into the management's agenda that had been overlooked by headquarters focusing on efficiency and P&L improvement. Among these issues, some were dealing with writing skills for the web, others with new online features or new expectations and competency definition of online editors. The situation depicted in this brief, introductory illustrating case was captured during the social audit, from September 2011 to April 2012, through sets of interviews with stakeholders at managerial and employee levels (from the CEO and Editor-in-Chief to local online editors) and access to project and internal communication documents.

[10] Office de Justification de la Diffusion

APPENDIX B

Preliminary Interviews

A two hour interview with Olivier G[11], Paris, Oct. 16, 2014

Olivier G. is a Business School Graduate and Alumni of the ESCP Europe Business School in Paris (Master in Media Management). We have known each other for a long time. Olivier G. is an experienced and talented journalist and businessman who worked for several major news magazines in France before 2000. He has been supervised by some of the most renowned editors-in-chief still active in the country. Olivier has then been appointed Chief Online Officer in a top magazine publishing group in France at the corner of the century. He is both business minded and a passionate observer of innovation trends affecting the industry. He has founded and now runs a medium sized IT business providing online frameworks to sustain digital shift for medium sized and larger companies.

On how internet affects the job of journalists

Time pressure and pace of information are the actual drivers of change, Olivier says. It is the pressure from instant information delivery that is transforming the way businesses and individuals envision their respective roles and jobs. Basically, journalists have to cope with a new paradigm: the fundamental question linked to content is not relevance or significance any longer. It is about being the first. One could reasonably argue that speed has always been a concern in journalism; however the issue has changed in nature. Now it is about being the first *in the releasing process*, not *in looking for and relating significant facts*. And that is new. The objective assigned by executives and management teams to editors is to generate reuse of content through SEO, thus maximize instant audience.

In that process of audience maximizing, sense making and sense giving are not the key drivers of editorial production anymore from an internal and organizational standpoint. What drives the game is online sourcing and speed in processing data that can address the needs of large sections of the audience or entertain them.

[11] Identities have been changed

On editors-in-chief dealing with online information

Editors-in-chief do not value investigation and field journalism as they used to. As content selection is driven by an audience maximizing process in an immediate search for reuse, some field-driven operations once led by journalists are now easily skipped. Basic activities such as picking up the phone to call the people involved, cross-checking information, looking for different points of views or stepping out of the office to actually ground the facts through experience are avoided; not only are these tasks difficult to handle under the time constraints mentioned above. They are also viewed as optional by the younger generation of journalists: checking that several online sources produce convergent information is often considered sufficient – although some of these sources have not been checked individually in order to make sure they follow safe production rules and sensible code of conduct. The assumption underlying the whole process is that aggregation and convergence from several sources provide sufficient evidence of the reality from the field; going into the field is hence no longer a prerequisite to online publication. Besides, the questions now raised by editors-in-chief at team conferences are no longer: "What have you been doing this week/month?" "What are you looking for at the moment?" "Who have you been meeting lately?" "Where have you been?" Or: "What stories/topics have you been after?" But rather: "Do you have anything for me right now?" Olivier acknowledges that the question was raised before digitalization. It has always been a professional bias of journalism in practice, he adds. But senior editors would always let journalists feel sufficiently confident about the investigation and facts to allow a certain degree of individual freedom in the publication process and compliance with the deadlines. However now, the background of journalistic activity serving the online work flow has simply disappeared from the day-to-day concerns of editors-in-chief. 'How?' simply does not matter. According to Olivier, there is an unspeakable choice now being made by editors while managing the process. Some of them have unconsciously accepted that there might be failures and errors in the information work flow, coming from the obvious lack of validation procedures. However as the flow is both massive and continuous, the risk is rated as acceptable in the minds of editorial decision-makers. False or simply low-level information will be screened out rapidly from the readers' mobile devices and personal memories, which makes vigilance issues less critical in the representation that the corporation has of the implications and consequences of errors.

On Stéphane d.T[12]., editor-in-chief of Le Temps[13] [leading publication in the country] and the differentiation issue for print and online media

Olivier says that he has known Stéphane d.T. for a long time now. I have been rather outspoken to him lately, he adds. I told him that he has been too opportunistic these days with the positioning of Le Temps as a publication. I made the case arguing that he has been too cynical in compromising the historical identity of Le Temps, using this referent publication as a way to promote his own opinions and visibility in other media. He loves attending TV shows on news channels, he is everywhere. What Stéphane really likes is theater, I mean playing a role, being at the center; he has a true passion for this – he even occasionally writes plays. Stéphane has impressive connections to the political world, his network is just outstanding. However in the meantime, Le Temps has completely lost its identity both on paper and online, pushing in the same direction as everybody else in the industry. Stéphane is simply not interested in field journalism and grounding the storytelling, well that is my belief. Field journalism usually stops in editorial teams when the head of the political news desk is given the internal take on power. This is a personal conviction I have. Strangely enough for Le Temps, the result is celeb-oriented covers designed to sell paper, along with disconnected and unsettled political insights that are meaningless to the audience, producing blurred identity on the web. No one knows what Le Temps stands for any more – and this is not about political orientation, it is about fact-telling and how Le Temps looks at the world. It is also about "how" the publication relates facts to each other in order to bring meaning to its readers. But what is the sense of such [a prestigious] publication to release a cover with Carla Bruni? Also look at Libération[14]. This is a daily where real things used to happen all the time – whether it pleased people or not was simply not the point. In the early 90s, everyone would read Libération regardless of political orientation because one could be sure that they would come up with some significant facts, issues or stories in there. Then came a time when Libération wanted to be authoritative and serious. Finally in the last ten years Libération has gone crazy. Where are the facts? The journal looks like a recollection of individual points of views that do not form part of a coherent and meaningful positioning. As a result, their website is just as unframed and senseless as their editorial purpose. It is not a question of web vs. the paper, Olivier says, but of what

12 Same as above, identities have been changed

13 The brand has been changed, however the publication on which the interview is based is real

14 Well known national daily in the country, historically positioned on the left/liberal side of the local political map

makes sense on both channels when you are standing for editorial values and not just aggregation. Newspapers and magazines seem to have lost their mind and soul shifting online, because they have been obsessed with IT, organizational issues and surfing the wave.

On the way business is affected

Here is the true drama of the traditional media: being lost in the flow of convergent information; losing their differentiation and identity in an attempt to maximize audience and draw some advertising revenue from the Internet. But this revenue is just ridiculous compared to what they used to get; cost per click simply makes it impossible. They still need the readers to pay!

Now they are realizing it -but it may be too late. They are just starting to think: "maybe we should have gone for a paying model from readers earlier". Some are making progress. But no one wanted to go that way five years ago; advertising was going to save the press; anyone doubting it was seen as a foolish, old-fashioned, XXth century guy. In the meantime, there have been some serious experiences and things to look at closely in terms of business models and paying information – that can bring inspiration to some ailing businesses.

Interestingly, some success stories are just going in the opposite direction from the Google News "me-too" model. Look at what Der Spiegel[15] does in Germany: long papers on the Internet. In depth stories that seem to pay! Look at Mediapart[16] here in France: they have managed to generate 100 000 subscribers online, all of them willing to pay €9.90 per month to be part of an editorial community. They are *supporting* the Mediapart initiative – this is typical crowd funding! How refreshing: people are still seeking for information. People need sense and meaning from facts – and if they get it, then they are willing to pay. Mediapart stands up (sometimes noisily I must admit) to reinvent journalism online: they have published major affairs that "serious" newspapers stuck in the flow of online aggregation models were just unable to produce any more.

[15] Authoritative German weekly - Der Spiegel is selling one million copies in the country. Der Spiegel has based its reputation on investigation. The choice was made to have two different and completely separate teams, one dedicated to paper and the other one to online, thus contradicting the choice made by the majority of press publishers to merge editorial teams.

[16] Mediapart is a pure player information website launched as a spin-off by journalists coming from quality French dailies. It has become one of the rare success stories in online paying information websites. None of the articles are available for free. 100% of the content is protected by a pay wall.

They have hired experienced journalists and not twenty year-old community managers. Following that route, they have pushed a Minister of Budget to dismissal[17]! And they are using online technology for what it brings: ability to release all the side stories, the evidence, the details etc. without the physical limitations of paper. And guess what: they are profitable without drawing any revenue from advertising or relying on an upfront audience maximizing strategy. Now of course there is a downside: the price is lower than it used to be. But they are a double-digit profit business! There is a single reason behind the profit margins: online production costs are so low that readers can get subscriptions at attractive prices. Now obviously they are not operating from a print base and this is providing clear competitive advantage. But we all need to understand that there is a historical, symbolic price for information that is highly correlated to the production costs of paper and the distribution costs of physical products. We must free our vision from pricing policies inherited from this model, because this is what has kept information expensive in the last decades. And this has lived.

On the Groupe Le Temps

They have been tremendously arrogant, not understanding what was actually at stake. They have spent several hundred thousand Euros implementing a pay wall technology that still does not work properly. Rolling out the project has proved a nightmare. In the meantime, the shareholders were proposed a reasonable price for the business –which they were willing to sell at that time. They rejected the offer arguing that it was outrageously low. Now two years later they still want to sell and can hardly get half of the value they were offered by then. The pay wall model is still not working and there is good chance that the value of the asset base will keep on decreasing.

Personal notes from the interview
Oct. 16th to Oct. 22nd 2014

[17] Olivier refers to the dismissal of Jérôme Cahuzac on March 19th, 2013. France's Minister of Budget under the first government of François Hollande and one of the most prominent politicians in the country at that time was pushed to dismissal after Mediapart released evidence of tax evasion from Cahuzac to a Swiss bank.

A one hour interview with Daniel C.[18] – Paris, July 28th, 2014

Daniel C. is the former Chief Editor of a professional weekly -and more recently of a popular special interest monthly in France. We have worked together on the local adaptation of a magazine concept from the U.K. Daniel has then created a consultancy targeting editorial teams in the publishing business. He focuses on helping journalists navigate with online tools and content creation. He has also founded a think tank with a goal to share experience and best practice from the field. This think tank has been active until 2009-2010 gathering people from different backgrounds: managing directors, consultants, editors in chief and journalists.

On Daniel's consultancy positioning and offer

I am running a website dedicated to online content creation, which aggregates and shares tips, experience and best practice from a whole range of people involved in the digital shift: journalists, business people and bloggers, Daniel explains. The purpose is to show that online is not hell; it is easy, based on simple, manageable tools and community sharing. Anyone with something to say and willing to take part can go out on the Internet and play. There is still a lot of disdain and fear from traditional media and journalists - we have not fully overcome the cultural gap yet – but let's not fool us: this is generational and change is coming from the younger ones. My role is to lower the psychological barriers from the teams in place, guide them through online experimentation and provide practical help in the shift. And this is needed now, because the shift is going global: a few years ago people in the industry could still think 'OK, this is changing the business, but the guys at the web desk are dealing with delivery. This is where the geeks are having fun but they still rely on us to fill in the pipe'. Now editorial teams are merging. Everyone has to cope with the tools. So everyone should have the basics to get the best out of them. This is what my consultancy is about and also what my own website aims at showing. I am pulling together ideas and advice from experienced people with a view to demystify the whole thing: I am aggregating blogs, tutorials, videos, Powerpoint presentations dealing with such topics as key words, SEO, adapted writing, managing Wordpress and other open source solutions etc. Pedagogy is

[18] Identity has been changed as in previous case

key, as well as frequency. I have assigned a simple, single objective to the website: there should be no day without a new tip, a new experience, a new link or a new idea. The site speaks for itself and naturally expresses the positioning and scope of services from my consultancy. That's exactly what you get from the Internet: a cheap, easy way to reach targeted audiences showing real interest in your fields.

On journalists and how they cope with the change

This is a conservative, established professional community and it is facing dramatic change with angst and anger. I am a journalist myself so I can understand many of the concerns and reactions you now get in editorial teams. Processes had remained globally unchanged in decades, to the notable exception of the designing and reviewing phases in the workflow. So people need help and assistance, that's the same story whenever change happens. What publishers need to do is support the shift in skills, train people, reduce fears, provide decent IT helpdesks, etc. It is a wonderful world of opportunities out there. But for the time being, publishers are just failing to provide the right level of agility to their teams to take advantage. So journalists still have a 'print' mindset, trying to cope with Internet on top of the rest and make a few adjustments. This is not the way change goes. Change requires a total shift in the priorities, timelines and minds. But for journalists to go into that direction, you've got to explain, help them experience and feel the benefits, and also make them interested in the audience measurement. These are not minor points. Again, this is where cultural shift is at stake: before digitalization, all we had to look at was sales and audience surveys once a year. Now every article is tagged on Google Analytics! Journalists get instant feedback from their contribution and this is extremely challenging – not to mention threads and forums. Transparency is higher than it has ever been while market response is awfully precise and demanding. This is an absolute disruption for the corporation, but change is everywhere in society. So let's support change in journalistic skills and behavior also – for the better.

On opportunities from the Internet

Publishers are missing it for the moment - there is no getting away from the facts. It is like trying to win a sailing boat race today with a XIXth century vessel. We all know that publishing businesses were already struggling with fixed costs and outdated processes before digitalization. Some will adapt, others will not. Paying models are

showing early results against all odds: look at the NYT pay wall or at what Le Monde does here. The Financial Times is doing pretty well in the UK for what I know, but they had to make choices and closed their country edition in Germany. At long last, Libération is giving the lead to online in the restructuring to come. It is highly probable that the economy of print news publishers will shrink to a new level, with more limited resource and staff. But costs will decrease and allow the emergence of a sane, renewed model for the most agile, innovative businesses.

On the journalistic side, we are moving from individual, editorial standpoints to animation, cross-contributions, moderation, topic-related content and expert knowledge. It is also about the way knowledge is now being produced: knowledge is the sum of data made accessible and intelligible to individuals. Journalists will have a role in this, but their historical and individual position will change. What I am describing here does not limit to news publishing. Look at knowledge with new eyes: look at e-learning, MOOCs or virtual universities. This is all part of the same movement. I used to teach journalism. And just a few years ago, I would tell my students: "Now take a sad but common event: a dog has been run over by a car in a village street. Your standpoint and storytelling depends on the media you are writing for. Think of your headlines if you are a standing for *Dog Magazine*, for the local daily, for the *Association of Rural Life*, or for *Car and Driver*. What would you say? What would be the subtitles?" Now Internet gives room for all viewpoints in a single place. We must acknowledge that it is the user's choice to go for the different angles and stories. Our new role is to select, organize and allow direct expression in return. This does not mean editorial will stop existing. But editorial will come from combined practice and interaction. In this new process, the way journalists envision their role is deeply affected. Here is the downside in new journalistic practice: it is both more demanding in terms of technical skill set and less rewarding on the social recognition side. None of this is definitive. We are building by learning.

Personal notes from the interview
Nov. 1st, 2014

APPENDIX C

Interview Guide

Date:

……..……
……..…

Location and material conditions details:

……..…….……..

Name/ Title:

……..……
…….

1. Introduction

I am conducting doctoral research in management at the Paris Dauphine University. I am studying the competencies that an organization should either acquire or modify, in order to be successful while moving to digital. I am more specifically interested in news publishing, as a sector facing massive digital transformation.

For the purpose of this research, I am interviewing fifteen journalists, whose job is at the center of the transformation affecting news publishers. I want to understand several things with them:

- What are the competencies they have learnt through education and training, and how,
- Which competencies they have been using to perform their job before digital was introduced,
- Which competencies they need to perform their job since digital was introduced:
    - The ones they had already acquired and that have become more important,

- The ones that are less important or that are not necessary any longer,
- The ones they have had to acquire,
- The ones that have become critical.

I am going to ask you questions, but this is a very open discussion. Do not hesitate to tell me what comes to your mind in relation with our subject.

2. Professional identity and personal experience

a. Can you tell me about your professional experience?
b. How long have been working as a journalist?
c. How did you choose to be a journalist?
d. Can you tell me about your motivations?
e. Can you briefly tell me about the different steps in your career?
f. What were the defining moments?

Now we are going to look at the different steps in your career in more detail.

a. Where and how did you learn your job?
b. How did you train to be a journalist?
c. What were the key things you learnt during your professional education?
d. Why were they important?
e. How were the courses structured? What can you tell me about the teachings? E.g. which methods were used (topics, themes, simulations, workshops, group work, lectures, technical learning etc.)
f. When you started working, what were the competencies you had already acquired at school?
g. According to you, what were you able to do best from school? (prioritize, source, investigate, write, etc.)
h. And what did you learn from field in your first years?

3. Individual Print Competencies (IPCs)

Now we are going to spend some time on your job as a journalist when you were exclusively for print.

a. What was a typical day at that time? Can you describe what you were doing?
b. According to you, what were the main competencies needed for the job?
c. How much time did you spend at that time on the different tasks? How much time did you spend contacting your sources? Writing? Reading?
d. Before the Internet came, which competencies would you say mattered most for the job? Are you able to rank them? Can you tell me why you chose to rank them that way?
e. What did a journalist have to know? (Techniques, knowledge, history, economics, domains of expertise, actors, professional networks, sources etc.).
f. What should a journalist be capable of at that time? What were the different qualities for the job? In terms of tasks, which ones were the most important according to you?
g. In the case you are still working for print today, does this still apply?

4. Individual digital Competencies (IDC)

Note: distinguish new from old

Now we are going to spend some time on your job as a journalist now, and how it evolved since Internet affected your work.

Context/ general opinion:

a. Can you tell me when you started to work for digital? In what kind of professional environment were you working at that time?
b. Generally speaking, how did digital impact your work? Would you say your job has changed? If so, in what way?

According to depth of answers:

a. Now concretely, can you tell me how digital changed the way you work? I am thinking of the way you spend your time, the tools you use (laptops, tablets, smart phones), the media you use (alerts, web sources, social networks etc.), the people you meet and the contacts you have on the Internet, your personal workflow etc.
b. For example, back to what we covered earlier: what does a typical day look like now?
c. In order to work in a digital environment, what should a journalist know?
d. And what should he/she be able to do? What should he/she be good at to be working for digital?
e. According to you, what are the competencies that matter to be a good journalist in a digital environment? If you had to rank these competencies, what would you say and why?
f. You told me earlier that the competencies that mattered before digital were …/…/…. Are you still using them? Are they still as important as they used to?
g. Did you have to change your competencies for digital media or in a digital working environment? In what way?
h. You said you had to acquire new competencies, and you described them. How did you manage to do that?
i. Did you get some training? Did other people or colleagues show you how to do? Did you manage on your own?

APPENDIX D

Selected quotations from informants along first order concepts

First order concepts	Selected quotations
Deskwork extension	▪ "They have rotating working hours, from 8 to 5 pm, we're doing longer hours." ▪ "The real constraints are human constraints. What really influences editorial choices is the number of people you are able to mobilize at some point in time on the news. If you're three, you won't be doing the job of forty. Algorithms do not decide for us. We decide on the mix of news, based on our editorial policy." ▪ "The editing team had around twenty people by then. Now it's ten." ▪ " 30 people [are] working for your website, producing from 7 am to 11 pm"
Integration of technical tasks	▪ "We did a lot of videos on the victims of the Nice attack, the guys did serious fact-checking on top of that. You've got to check the names, make sure they are on the list provided by the City Hall services, this is real journalism. It's a matter of time mostly: we do a lot of videos, around ten a day. So they're running after time." ▪ "When the press was hit by technology, I didn't think of it as a constraint. It gives you huge possibilities, videos, sound, working images and texts in parallel, I find it truly exciting." ▪ "At some point schools were asked to produce Shiva-like journalists, who would be able to do everything. Learning the different sides of your job is fine. Everyone being able to take a photo or shoot a video, that's technically doable. But with an industrial eye, this is crap. Being able to hold your smart phone properly doesn't make a video content strategy."

First order concepts	Selected quotations
	▪ "So we shoot videos in our studio or reporting on a story, we do the editing and we also do it with video extracts, sometimes with GIF formats. It's not serious videos in fact, it's a bit more, 'LOL' let's say." ▪ "From what I see, 25% [of time] is spent on sources, looking for information. And 75% on multimedia. I'm talking of multimedia, but today you've got to add something that is getting very important: social networks. It's very time consuming and we all know that. Writing tasks are multiplied, under different formats. There's no magic, you take this time from sourcing and collecting information."
Instant publishing	▪ "Proof reading has to be quick. You've got to be as quick as possible, and this is reducing the number of steps. And it costs less." ▪ "The web has completely changed the jobs of journalists, in the sense that checking is no prerequisite to publication any more. Publishing comes first, checking comes second. You can do it smart, you tease first, time for you to double check." ▪ "I remember writing for print. There was no publication if fact-checking was not okay, since the magazine was not printed yet. So it's just a question of time. This makes me think that the job has not changed that much. The publication rhythm has changed. You still do the verification, but you do it at the same time, and sometimes you do it afterwards. But the job is still the same." ▪ "I was telling them: 'but you can bring add-ons, we'll be improving the story in ten, fifteen minutes'. The need for instant publishing wasn't fully there yet." ▪ "It's a rather simple idea. We've been briefed around being the

First order concepts	Selected quotations
Instant publishing (continued)	first ones on the web. You want to be first on web delivery, so you're going to be first on the news. ▪ Instant news, period. That's the thing." ▪ "I was working with lots of freelancers, collecting their stories and reading. There was all this cumbersome processing typical of the press, we were ordering, reading, sending the news to editorial assistants, who in turn were sending it to graphic design, then it was coming back, we were correcting things, sending it back to the editorial team, to the deputy chief editor etc. On and forth. Five times, six times." ▪ "For sure, we have no longer distinct, dedicated editorial teams for print and web media. What we have is a single editorial team working for the web, along with a small team of ten editors whose job is to adapt web content to print distribution. What they do is adjust the articles that are best suited for publication on the next day, for reading on the next morning – also in terms of format and writing." ▪ "All we had was a telex with a guy tearing the news dispatched one after the other, spreading them in boxes for the different categories, politics, culture, etc." ▪ From a societal standpoint, what matters is the quality of the information you are releasing. If you've got the wrong news, there is no point in circulating it broadly and being efficient and fast in delivery."
New tools/ devices	▪ "One of my clients in marketing, they have some software – I don't know what software it is, it determines the story ideas they need. Probably it analyzes Google searches, Facebook behaviors, big data stuff, and then the guy tells me: now you should write on mobile marketing, and also on 'how to boost your sales on e-commerce websites' "

First order concepts	Selected quotations
New tools/ devices	▪ "The algorithm is more sensitive. Now Google is expecting longer texts. It privileges texts above 100 signs. The algorithm has changed again, the last things I have seen about Google is longer texts with more links, and the use of leveled titles, with paragraphs." ▪ "From a journalistic viewpoint, information comes first. Once you've got that, you publish with whatever tool you have – and this tool happens to be a CMS [content management system]. Web publishing is an end-product and print publishing is an end-product. We're able to invent any publication format we need, according to usage." ▪ "SEO is determining. It's a thread I always have in my head as I write for the web, with keywords by my side. Yes, this is leading the game. I use them in the titles, in plural. I do not multiply them because Google doesn't like it any longer, but I use synonyms." ▪ "It turns into a technique and it's not a constraint anymore. SEO is not a constraint. It's a new way of thinking. Instead of formulating your story with your own words, you tell it with imposed words. But words from everyday life, easy to use" ▪ "[SEO]. No, it's a minor additional technical constraint, just like spelling is a technical constraint. Just like grammar. Then it might be a competency. It might be a competency I have, and others do not. Just like there are some competencies I do not have, I'm not congratulating myself. I don't find it alienating. And telling stories is still the same." ▪ "Tools are simple in fact. It's not the point. Not sure you need to know more than how to change a wheel and fill in the tank to drive a car. You don't need to be into mechanics do you? […] More exactly, I think that if you're a decently structured and open minded person, you can appropriate tools quite easily."

First order concepts	Selected quotations
Soft skills	▪ "You are becoming a community manager of your own work, it's a new dimension and it takes a lot of time. There's a risk: becoming technicians of web distribution, rather than producing information. From a societal standpoint, what matters is the quality of the information you are releasing." ▪ "I've looked for people on the Internet publishing nice videos of their cities and towns. I contacted them, told them we could showcase their production as we have 3 million followers. They were Okay. I would just edit their video, cut it short and host it on You Tube or on my Facebook. So that I was getting all the clicks and reach. That was clear, I was telling them. And then there were links everywhere." ▪ "You do marketing with content. So it's content people's role to be into the discussions." ▪ "Chief Editors should think of their website as of a human body. Internet is a permanent flow, users flow in and out. You may call it marketing, I call it distribution." ▪ "You had to know how to frame an article: that was the key thing. You had to behave as a 'demanding enlightened first reader'. It was about producing perfectly structured articles, with a strong attack and fluid ideas." ▪ "I had to learn the in-house culture with news titles; it's very catchy, it's one of our trademarks. And the headers too, as we publish short formats, they've got to be real concise and very efficient." ▪ "There's a competency [with social networks], willingness is not enough. We have a group on Facebook, of social media journalists sharing tips, as platforms change all the time." ▪ "What we should really care about – and this is why I love being in social media - is engaging with the audience. With the presidential run coming, you can feel we're into something

First order concepts	Selected quotations
Soft skills (continued)	different from 2007 or 2012. Social networks tell us. ▪ "I, as a chief editor on the web, well I was doing business development in the afternoon. I signed up the first deals with Yahoo. On both sides of the table, we couldn't really tell what we were signing: there was nothing to refer to." ▪ "A chief editor should monitor marketing. It's getting easier with young people." ▪ "The thing is, the web is not like a product you deliver and then it's over, and then you hand over to the guys on the third floor. That's why it didn't work with guys from print: they were still thinking 'audience is not my problem'. What is SEO at the end? It's distribution. On the web, it does matter to know how you should write your titles and articles. There's no guy to take care of that on the third floor." ▪ "At the end, a chief editor should know the figures, access all the analytics, now that's obvious. I opened up access to the stats when I was in charge for this newspaper, because when I arrived there, it was unimaginable for a journalist to access web analytics. Only chief editors were entitled, and they didn't understand a clue. They would receive reports they were just unable to read. All they were interested in was the top 10 articles." ▪ "One third of our audience is coming from Facebook. Who would have thought that? And Twitter too, but Facebook mostly. That's how it is now. We just adapt by proposing new things. It wasn't one third actually before we took care of this, but that's what we've been doing with the team."

First order concepts	Selected quotations
Ambidexterity	▪ "Those who don't know about HTML, we provide training. Because code is structure. You don't need to be fluent in Latin to understand French, but it helps to have the basics. Code is getting universal. You've got to understand how it works. If it's a law of the Universe, then you'd better know it." ▪ "They will never be trained with the right CMS, since our CMS is in-house, it's tailored. They learn SEO at school, and honestly that makes me laugh. By the time they graduate, SEO will have changed twice. Not only is it counter-productive because they get bad habits, but the schools think they give them state-of-the-art training." ▪ "If I feel like I need more technical assurance someday, why not. Tools, techniques are just what you want them to be. So if you want to do something, you've got to acquire the competency with the right tools." ▪ "The job is the same, the tools are different. It's a mindset, because technology is super simple, be it photos, videos or HTML. Stop messing around man, that's easy. All you've got to do is spend a few hours on it to get it right. It's like a car. Driving a car is a no brainer." ▪ "We talk a lot about Snapchat now. For us, Snapchat matters. It's a different way of telling stories. Because of the format, it's really great. You have to think different." ▪ "We've got to produce real tailored content for each social network, and that is difficult. You do not tweet like you post on Facebook, and it's also different from a Snapchat story, so you've got to do things, produce for each platform, diversify." ▪ "What I'm looking for is a strong desire to be a community manager and a social media journalist. Interest for social media; a strong sense for editing; the ability to work quickly. Then there's a key thing which is mastering the hierarchy of

First order concepts	Selected quotations
Ambidexterity (continued)	information." ▪ "People may be coming from IT or marketing, I don't care as long as they have a desire for journalism in fact." ▪ "We try to do experience sharing when we're in trouble with the tools. But what I see with these people is that they are Jacks of all trades, they're on a trial and error mode." ▪ "We said, okay, things are changing so we need to change the organization. I want them to have this strong appetite, to think, something's new happening and that's good, we'll be questioning our ways of doing, no need to be afraid. I'm lucky I must say. They're quite open when they are into that kind of job." ▪ "I need them to be creative and remain on permanent watch. And realize they might need to work differently in six month time. We never faced that situation before. Three years ago, four years, everything was different. As a young journalist when I got my press card, I couldn't imagine I'd be working for a free newspaper– didn't even know free newspapers would exist someday! And that something called Internet would become so important. What do I do today? I work for social networks in a free daily! Couldn't think of that job by then: it simply did not exist."
Acceptance of change	▪ "2000, Internet was not as powerful as it is now, you could feel there was something happening but no one knew how to deal with it. Even now, the press still doesn't know. With the digital division being created, two magazine websites were put on hold, because we were launching a portal in the same market. […] And this portal was finally stopped quite quickly. It didn't make any money in fact. No business model. At all."

First order concepts	Selected quotations
Acceptance of change (continued)	▪ "Journalists had to make their own revolution and call their habits into question. At the beginning, some would say no, I write for paper, others will do the web stuff. And I have no time for that, and it's not my job." ▪ "Journalism, if it dies or is in a bad shape, it's because we will have been too much corporation-centric. This is a personal opinion. However it's got nothing to do with digital or whatever. It's a question of openness." ▪ "The atmosphere was not favorable, for the least. People were thinking of [web journalism] as a second class job. It took several years to change that." ▪ "Writing short has never been a metaphysical question. It's got to do with P&L, that's all, period. With ad revenue divided by five, you'll always find a guy to tell you the benefits of writing short. It's not about journalistic criteria, it's about business." ▪ "There was no teasing, like: we're going to release bits of a story, without the complete thing, saying, we have just learnt something from X, we're telling you, we're checking it for you, we'll be back with more. This is how I was thinking of the web at that time, but people were against it. I was given calls, people saying to me: you can't publish this." ▪ "It's like for them it's a marketing thing, not real journalism." ▪ "I can feel a distance among some of my … colleagues. Maybe it's their mindset, their mentality, I don't know. I could never understand why they don't get the magnitude of a Facebook, of a Twitter, of a blog." ▪ "I belong to this generation. I'm still on old patterns of thought. A journalist has a press card, he is the guy chasing around for information and giving it away selflessly etc. I believe journalism has changed now; it has expanded in a way. What

First order concepts	Selected quotations
Acceptance of change (continued)	I'm doing for these marketing and corporate websites is some sort of journalism." ▪ "Now that I think of it, that's journalism too, the news is real, I do the fact-checking. After all, the news I'm producing for them, well it could be published by the press. It's also some kind of journalism."
Learning by doing	▪ "What is really driving things all the time is usage. If websites or social networks are down, it's a question of use. Have you been onto My Space lately? Looks ugly. When there used to be Facebook, it was a different story, an experience of its own. So usage, as I say." ▪ "We experiment all the time, and then maybe we dig into it. We try different formats that resonate with today's video culture." ▪ "Copy pasting web gimmicks on paper magazines is nonsense. It's just the opposite. You've got to do real magazine stuff. At the end, working for the web is getting more interesting than working for print." ▪ "There was no huge difference at that time. We would apply the print recipes to web news. Sourcing was pretty much the same, so was writing. SEO was on the rise, we would start using keywords but it was not the standard yet. What we were doing was duplicating print techniques on the web […] looking for information. Yes, we were looking for information on the web, filtering what we got from US websites and translating." ▪ "Once or twice, this guy would turn to me and say 'do you want me to have a look at your paper?'And I'd say yes, sure, please do. I remember once of something he told me. I had been covering a night round with the cops in the 18th district of Paris. I had been with them in the car. He said let me read it

First order concepts	Selected quotations
Learning by doing (continued)	first, then: 'look, we've got to hear the sirens and brakes'. I can still remember what he told me then. 'If you had written it from your desk, there would be no difference. We've got to understand you were there. And your reader should be there too.' It's printed in my head, and the guy was no chief editor, he was just the journalist next to me." ▪ "Then you get into the real thing. The typical example, and that's a real nightmare for a reporter, is a child murder. You're asked to visit the family. There's nothing worse. I've been unable to ring that door bell a number of times, I can tell you." ▪ "They're going to give the guy some real information because they've known each other for such a long time and they trust each other. And you get nothing. Some colleagues of yours, they've got plenty of stuff. And you, no one's talked to you."
De-specialization	▪ "For example, [as a beginner] I couldn't make a difference between a revolver and a pistol. Maybe that's stupid, but there are technical aspects in every news sector. In the crime section – same if you're in science or in car manufacturing. I took ballistics lessons. I remember taking a course with an expert from GIGN [elite units of the French Territorial Defense Force], spending a whole afternoon with him and a black board. I wanted to understand the things I was hearing about calibers." ▪ "The grand old tradition in the press was to have specialists […]. Well the guy covering the far right party, after 5 of 8 years doing that, he was the specialist of the far right. That's great, and very few media can afford that now, even top quality dailies probably can't."

First order concepts	Selected quotations
De-specialization (continued)	▪ "They acquired plenty of businesses. They acquired two major magazine titles. They got rid of everyone. Then they hired guys from the web with no experience who produced weird, poorly written content with plenty of misspelled words." ▪ "When you have an editorial team of 5 to 6 people, your guys have to cover three domains each. You just can't afford specializing people, objectively." ▪ "Ensuring specializations was just impossible. If you have 30 people working for your website, producing from 7 am to 11 pm, it means everyone is a generalist."
Delineated hierarchy	▪ "Then the next step at the daily newspaper I was working for was to say to graphic designers […]: now it's all calibrated, you're not going to reinvent each page. We need the art director for the front page and a couple of guys to adjust things. But we do not need 15 people to produce 48 pages anymore." ▪ "These twenty guys were supervised by a Technical Chief Editor, helped by a Deputy Chief Editor and A First Secretary." ▪ "The whole print hierarchy has been erased between 2007 and 2008."
Autonomy/ self regulation	▪ "There is much less intermediaries. […]At the time I was working on the web, there was less verification, fewer people, so a single chief editor could read and validate. That's all. Whereas for print publication, you've got the assistant editor, the head of the department, the chief editor, and they all read, you've got much more proof reading." ▪ "In the past I used to have editorial secretaries. Now what we have is editors, and it's not been labeled like that just for the

First order concepts	Selected quotations
Autonomy/ self regulation (continued)	sake of lexical cosmetics. It's their job." ▪ "There are guidelines. They know their job and the global direction we want to give." ▪ "Every night, people work without a boss in here. They can call us if they have a problem, but we're asleep. So we ask them to be autonomous and self-disciplined. We have to give sense and tell them why we expect them to do things in a certain way." ▪ "Production is a different story. The limitations you were facing to perform your job just fade away. There's a paradox that goes along with that. Just think of someone who's been in jail for several years. You open the door and say to the guy: 'there's a big garden out there'. Well it will take some time before he actually dares to go out and walk through that garden. The problem with paper is that you write with a limited number of signs, and everything is structured from there. So the complete freedom you have as a pure player, well you've still got to master it, because you need to monitor the workload, the publishing deadlines etc. However no one's after you for the bloody 40 pages." ▪ "We're a referent daily newspaper, right. We can't just send whatever we have on networks like that. See, we've lived a crazy year, we've been through all the terror attacks, so you need some very serious journalistic standards, I mean being accurate and rigorous. First thing we did when there was the Bataclan was giving the news. Then we stopped the flow. " ▪ "We're paying them [bloggers] with audience and prestige. Because they are monetizing their audience. But we're dealing with folks who do not share the same deontology. In a sector where there's a lot of marketing and mass consumption, we've got to check that there is no hidden deal behind what they are writing, and it's no easy thing to do." ▪ "We copy-paste their sentences in Google to check whether it

First order concepts	Selected quotations
Autonomy/ self regulation (continued)	is not plagiarism. For a journalist, [cheating] is the end of your career. But these guys do not see it this way, sometimes they do not even see it as a problem." ▪ "The Chief Editor shouldn't do the fact-checking. We do the proof reading, don't get me wrong. But let's make it clear: I trust people to produce information that is real. As a journalist, I never asked my boss to do the fact-checking for me." ▪ "We make frequent mistakes. Then we adapt. In an editorial team, trusting each other is the rule. Here [with bloggers] you do it the opposite way. You've got to be wary. You've always got to think: is there something behind what this guy is proposing?"
Training and education	▪ "No one knows how to write a long story any more. We've lost two generations of journalists – of guys who never benefited from the right level of support to help them out and teach them. The best ones can manage, but everyone's being sent to a web desk, producing short papers. Ten pages, they don't know." ▪ "The only thing I was interested about was telling stories. When I passed my baccalaureate [A levels], what I was good at was synthesizing things. See, at school, that was the thing. I could synthesize texts quite well." ▪ "I remember covering Krishna. The first lines of my paper were about the contrast between the old, magnificent château and the smells of Indian cuisine inside, and also the bald people in orange robes, well that was it, and writing techniques were very important. My boss has spent so much time correcting and shouting at me" ▪ "We need specific profiles, and we tell schools of journalism about our needs. I'd rather have people who are very familiar with social networks. Sometimes, even digital native

First order concepts	Selected quotations
Training and education (continued)	journalists, they're not expert users of social media; this is surprising." ▪ "I'm telling you no lie, first half of years 2000, you would ask a classroom in a school of journalism, half of them didn't know about social networks. Okay, Networks were just emerging. Still these young guys had been through all the classic schools and professional education and stuff. They were just ready to go, and our problem as pure players was not about making them knowledgeable, like, let's say, 'what's the name of the Président de la République? But folks, you're going to be into serious trouble. You're going to be in an environment where half of your readers are coming from Facebook and the other half from Twitter. Tell me you don't want to be on Twitter, I'm fine, it's your choice. But 'I don't know about Twitter', guy, I don't even want to talk to you. I won't hire you." ▪ "He said to me: 'I've seen how you've evolved in your work lately, obviously it's not just the few teaching hours I've been giving here with the others – because I had him as a teacher." ▪ "It came as a surprise. We posted job ads at schools of journalism, and didn't get a single applicant. I was perplexed. How come these young guys, who get tons of new from their social media, do not mobilize, do not think they've got a role to play as journalists." ▪ "Learning how to make an interview, learning how to check the news, this is great. But HTML coding workshops are just useless. We have reached a point in expertise where what we need is a top level graphic designer, a top level journalist and a top level guy for coding. That will create top level content." ▪ "The whole news publishing sector at that time, we were all horrified by the competencies of young journalists graduating from professional schools. They were completely out of step with the readers."

First order concepts	Selected quotations
Training and education (continued)	▪ "Now it's been corrected. Now the new guys, they have the same life as any young people around the globe. They have Twitter. But there has been a tension as schools were still producing classic-format journalists." ▪ "I didn't want the journalistic courses to be completely revamped. I wanted the contrary. You've got so many street sellers on the web they would tell you anything to do business." ▪ "We need specific profiles, and we tell schools of journalism about our needs. I'd rather have people who are very familiar with social networks. Sometimes, even digital native journalists, they're not expert users of social media; this is surprising."

APPENDIX E

Selected quotes along organizational competencies

Organizational competency	Quote
Technological fit	We didn't have the screens with the news from the AFP wire. What we had was a telex, with a guy tearing the news apart and dispatching them in the right boxes, politics, general interest, culture, business etc.
	You know the old-style thing, the blue paper templates that were used by editors to stick stripes on them. We were sticking them on windows and sketching the page - then we would do the calibration.
	Editors were suddenly given a computer. They were told, now you're going to get the texts onto your computer, you're going to choose the fonts, look at length and forget about the paper stripes. You're not sticking things any longer and you'll have your hands clean.
	Two sets of profiles were taking responsibility: the marketing guys, and the IT experts. People were thinking it's all about digital and technology, It guys should manage. Managing directors for digital activities, they often had this background.
	How do we keep track of all the content of Télé Poche? I'm thinking of all the articles on the TV series, the recipes and magazine section in fact. Then this guy came to me and proudly said: listen now we put everything on CD-ROMs, we're very good at this and we've done it for ten years. I

Organizational competency	Quote
	said: so how do you archive everything? He said wait, it's all on SYQUEST disks and they're in the cupboard.
Delineation of hierarchy	The news conference was scheduled between nine and ten every morning. Each department was covering its part trying to sell its news to the chief editor. We were all sitting at the same place and in the same order. Entertainment was first, their deadlines were shorter. Then we would all take our turn. And I was thinking, okay, it's just ten in the morning, if I don't sell my stories they'll just give me two pages and I need five before the end of the day.
	1992-1993, that's when the graphic designers started to get into trouble with their jobs. Editorial assistants, they began to get into the copy with predefined templates, to choose the photos and put them in the right place. People started to wince because Jobs were being cut.
	The whole print hierarchy has been erased. 2007, that's the moment when we merged teams together. At the same time, the global volume of print pages started to shrink. It shrunk for each paper issue, and also the number of issues decreased. Now we only publish four times a week, not five.
	Technically, you've got people working without managers. For example in the night, people have no boss. They can always call their boss in case of a problem but well, he/ she is asleep. On Saturdays, well there are no managers around. On Sundays, there is just one for the whole team.

Organizational competency	Quote
Delineation of hierarchy (continued)	The second step was to say to graphic designers: you've been working with computers for some time now, but now there are templates so no need to reinvent every page. Editors are going to put the copy into the templates. We need the art director for the cover and a few designers to rearrange some of the details. But we don't need fifteen designers to produce 48 pages any longer.
	On the web, there was less verification. There were less people so a single chief editor would do the proof reading and the validation. That's all. Two, three people, whereas in print publishing you've got the assistant, the graphic designer, the section editor, the chief editor, everybody doing the reading.
Marketing/ partnering	With the Internet rising, the marketing guys were pushing hard. Same for all news publishers: they were closer to the exec level. They were speaking the same language, saying to the top managers: you can't leave the digital thing in the hands of the journalists. We are going to reuse their content.
Customer engagement	There's a question around online culture. It's not as shared as you would think. Online culture means: what are the tools, what are the benefits, what do you do with them. Instagram, what is it exactly? Many people, they just don't know I think. Is it efficient? Why? How do I use it? The first layer in digital culture is making sure everyone's at the same level.

Organizational competency	Quote
Customer engagement (continued)	We have a participatory media team. If you look at the trends, this is growing while the rest is flat. Not sure whether this will last though, because these competencies will diffuse everywhere. We've taken the lessons from the creation of a web silo, so we are wary not to create another one. We want to bring these competencies to the whole team.
	The social media team is made of three people with rolling hours, so as to have broad time coverage. They are animating our own social networks, managing our communities, producing content, staying in touch with cybenauts to publish their content. They are looking for photos, testimonials, they are doing the fact-checking, suggesting specific formats. They are also watching techno trends and testing social network innovations.
	We have a group of social community managers on Facebook. We exchange tips, as platforms keep evolving all the time. So what we try to do is get feedback from others and help each other with the tools.
	Télé Star, it's just a crazy thing. They've got 16 'likes' on Facebook, which is just terrible a brand like this. They're in the middle of nowhere. They're doing it like they've always done. I talked to a friend there recently. They have three things that work, so they're doing it all the time. They don't look at the pure players, they don't look at brand websites like Coca Cola, but these guys are just doing a great online job.

Organizational competency	Quote
Online-first processing abilities	I have become a bi-media guy. It's hard to define. One thing is sure: we do not have a print team and an online team anymore. We have a single editorial team working for the web. And a small team of ten editors adapting content from web to print, putting articles in a format that fits the temporality of paper for the next morning.
	It wasn't exactly a digital shock, we were not there yet. It was more of a technology shock, a change in the process that was just a first step.
	The problem with large publishers is that their production tools are designed for paper workflows.. It's easier to build an extension to adapt content from print to web. So they're doing digital editions and this is just nonsense: some kind of in-between enriched PDF.
	They have powerful tools. Now of course when you pay €500,000 for this, there is some logic to flow the articles you have onto the web too. But the workflow is still paper-led. Your online teams are floating around.
	With Emap Digital, Télé Star and Télé Poche have been put on hold because we were launching Canalstar.com. It was a people website with an idea to with a 'trash' positioning. It was a good idea, but once again paper content was plugged onto the web, so we had long interviews, a few videos. But the videos were copied from TV formats. A few shorts from time to time, but it was a magazine organization.

Organizational competency	Quote
Online-first processing abilities (continued)	There was no big difference at that time. We were plugging editorial tricks from print to web. Content navigation was similar, writing was the same.
	At Télé Poche, I found the right argument with journalists to make them produce for digital. I was telling them: you have plenty of space now. You want to produce 20 pages? Do it. You're not going to get better paid for this, but do it. Go for the long version. They were happy with this.
Online first organization	We had a strong online ambition. So it was about translating it into the organization. It took us four years to merge web and print together. The purpose was to ensure global news production for the whole day and week, while we used to cover just morning news five times a week.
	There is a scissor effect that is difficult to handle. Ideally you should assign roles: some of the people on the hot news to feed the website and show we're on everything along with Le Figaro, Le Parisien and Rue89. And some others on the longer, documented papers. But we're under such financial strain the same people are doing everything.
	So we started to hire new people and shift others from print to web.

Organizational competency	Quote
Online first organization (continued)	They were assigned new objectives. Our mojo for print used to be: ’20 Minutes is your coffee machine mate’. This couldn’t work for the web. From the very start, it was all about instant news, and being the first on hot news. With print, differentiation was coming from being a free newspaper. But this is no longer valid for the web, everything’s available for free. So instant news, that’s the promise.
	Every five years, they shift organizations. Is the online team in or out of the main flow? So what we hear is ‘we’ve merged teams together’. As long as your chief editor isn’t a cross-media guy, this is useless.
	Web journalists, they suffer from a bad image. They are the low-cost guys you know, the flexible ones that need to produce all day long from their desk.
	Before the merge, there was a parallel editorial team made of junior people, decently paid but junior. The rules were completely different. With print, you used to work from Monday to Thursday on regular office hours. With the web, it’s the end of fixed working days – period. You have to be flexible in the week with days and hours. It’s the end of specialization too. If you’ve got thirty people working for the web from 7 am to 11 pm, everybody’s a generalist.

Organizational competency	Quote
Online first organization (continued)	People were wary with the web. I remember the things I wanted to publish, people were saying no, we need to verify. The need for instant publishing was not perceived. It goes along with online. But they wanted to verify. Great intention, don't get me wrong.
Analytics	Engaging teams on the web means giving them the right indicators. Your editorial culture is bound to your dashboard. If what you track is audience, then your site will have a certain look. If it's reading time, you'll have a certain type of articles. If you're into Facebook engagement, it's different. Monitoring your business with a certain type of metrics means a certain organization.
	Delivery is dependent on search engines so all of the SEO techniques should be the job of chief editors. So at the end a chief editor should know the figures and access analytics. I rolled out analytical tools at Les Echos; When I arrived, no journalist would ever access the audience of a website. It was in the scope of chief editors and they didn't understand anything. They were receiving reports and were unable to use them. The only thing they were interested about was the top 10 articles. Chief editors, they should master their site as if it were a human body.
Online strategy enforcement	I went to CNN in Atlanta. CNN had the largest online editorial team at that time. I asked the chief editor: 'your job is TV, how do you manage?' He looked at me and said 'CNN is no TV, CNN is information'. Now looking back at this, that's logical. Our job is information, adapting to the channel comes second.

Organizational competency	Quote
Online strategy enforcement (continued)	At the same time, the chief editor at the Guardian gathered all teams and said: 'Okay, it's 11 am and we have a scoop. Who believes it should be published at 8 am tomorrow?' Silence. He said well, we're publishing at 2.30 today. From now on, information is first no matter the channel. We're doing our job, channel is secondary. Those who do not agree, they're fired. Period.
	We'll invent all deliver modes according to usage. We have no clue about usage in one year time, so nothing should be sacred - neither paper nor web. It's not about web against paper.
	They have extraordinary volumes of content they could publish but they don't.
	They could have a huge database of films on the internet. All of them with summaries, comments and ratings. They don't do it. I suppose they're missing the vision, it's not about the means. Uploading all the archives could be off-shored.

APENDIX F

Quantification of discourse occurrences by informant

	Digital native	Digital native	Digital native	Digital native		Senior	Senior	Senior	Senior	Senior	Senior	Senior	Senior				
	Anthony M.	Simon C.	Laurent B.	Paul A.	DN	Anne K.	Géraldine V.	Jean-François M.	Emmanuel J.	Emmanuel P.	Charles D.S.V.	Henri V.	Arnaud L.	Seniors	DN+Seniors	High	Low
Community mgt	1	1	6	6	14	7	3	5	3	0	0	1	3	22	36	27	9
Community mgt	3	8	5	6	22	9	7	3	3	4	9	2	3	40	62	45	17
Total	4	9	11	12	36	16	10	8	6	4	9	3	6	62	98	72	26
Content curation	0	1	0	1	2	0	0	1	2	1	0	0	0	4	6	3	3
Content curation	3	1	5	5	14	1	0	0	4	0	0	0	0	5	19	15	4
Total	3	2	5	6	16	1	0	1	6	1	0	0	0	9	25	18	7
Content marketing	3	0	2	1	6	1	17	13	8	4	0	0	14	57	63	42	21
Content marketing	3	1	5	5	14	1	12	8	8	2	1	0	6	38	52	35	17
Total	6	1	7	6	20	2	29	21	16	6	1	0	20	95	115	77	38
Analytics	2	1	2	2	7	1	5	1	2	2	2	1	4	18	25	19	6
Analytics	2	0	5	3	10	1	6	0	1	1	3	1	6	19	29	24	5
Total	4	1	7	5	17	2	11	1	3	3	5	2	10	37	54	43	11
Tech ambidexterity	7	13	4	5	29	19	5	6	7	4	6	2	9	58	87	66	21
Tech ambidexterity	6	13	9	3	31	15	3	7	7	10	7	1	8	58	89	67	22
Total	13	26	13	8	60	34	8	13	14	14	13	3	17	116	176	133	43
New IDCs	**13**	**16**	**14**	**15**	**58**	**28**	**30**	**26**	**22**	**11**	**8**	**4**	**30**	**159**	**217**	**157**	**60**
New IDCs	**17**	**23**	**29**	**22**	**91**	**27**	**28**	**18**	**23**	**17**	**20**	**4**	**23**	**160**	**251**	**186**	**65**
Total New IDCs	**30**	**39**	**43**	**37**	**149**	**55**	**58**	**44**	**45**	**28**	**28**	**8**	**53**	**319**	**468**	**343**	**125**
Sourcing	3	12	4	2	21	2	6	8	0	1	1	4	6	28	49	36	13
Sourcing	4	14	5	5	28	7	7	3	4	2	6	0	6	35	63	50	13
Total	7	26	9	7	49	9	13	11	4	3	7	4	12	63	112	86	26
Fact checking	3	3	8	0	14	1	3	0	2	1	1	1	3	12	26	22	4
Fact checking	3	2	9	1	15	7	2	0	4	0	1	1	2	17	32	26	6
Total	6	5	17	1	29	8	5	0	6	1	2	2	5	29	58	48	10
Domain expertise	0	4	2	0	6	1	0	0	0	4	0	0	5	10	16	16	0
Domain expertise	0	1	0	0	1	0	0	0	0	0	0	0	0	0	1	1	0
Total	0	5	2	0	7	1	0	0	0	4	0	0	5	10	17	17	0
Storytelling	4	11	1	3	19	6	8	9	3	2	5	1	7	41	60	42	18
Storytelling	3	3	2	4	12	5	7	1	5	1	10	0	7	36	48	32	16
Total	7	14	3	7	31	11	15	10	8	3	15	1	14	77	108	74	34
Writing	4	9	2	1	16	5	6	7	5	7	2	4	8	44	60	42	18
Writing	3	8	8	13	32	11	12	11	10	9	16	4	10	83	115	74	41
Total	7	17	10	14	48	16	18	18	15	16	18	8	18	127	175	116	59
Deontology	0	10	9	1	20	10	8	3	1	5	0	0	4	31	51	47	4
Deontology	0	0	1	0	1	4	0	2	0	1	0	0	1	8	9	7	2
Total	0	10	10	1	21	14	8	5	1	6	0	0	5	39	60	54	6
Reconfigured IDCs	**14**	**49**	**26**	**7**	**96**	**25**	**31**	**27**	**11**	**20**	**9**	**10**	**33**	**166**	**262**	**205**	**57**
Reconfigured IDCs	**13**	**28**	**25**	**23**	**89**	**34**	**28**	**17**	**23**	**13**	**33**	**5**	**26**	**179**	**268**	**190**	**78**
Total Reconfigured IDCs	**27**	**77**	**51**	**30**	**185**	**59**	**59**	**44**	**34**	**33**	**42**	**15**	**59**	**345**	**530**	**395**	**135**
Total Reinterpretation	**27**	**65**	**40**	**22**	**154**	**53**	**61**	**53**	**33**	**31**	**17**	**14**	**63**	**325**	**479**	**362**	**117**
Total New arrangement	**30**	**51**	**54**	**45**	**180**	**61**	**56**	**35**	**46**	**30**	**53**	**9**	**49**	**339**	**519**	**376**	**143**
Grand Total	**57**	**116**	**94**	**67**	**334**	**114**	**117**	**88**	**79**	**61**	**70**	**23**	**112**	**664**	**998**	**738**	**260**

Reinterpretation
New arrangement
High performing firms
Low performing firms

APPENDIX G

Interview with Arnaud L.G

Les Echos

(Partial transcript)

I'm doing tailored content all day long, for paper and for the web. It's got to be journalistic but it's bound to be attractive to advertisers too, so it's native ad, brand content, etc. I was one of the first to do this. I've been into digital very early, in 1996.

I didn't live the shock like other people did. People like me got into the Internet very quickly. I wasn't into equations, that kind of things, but the way my brain works [*Note: Arnaud L.G. explained earlier in the interview that he was a gifted child, assessed with high IQ*] means I am absorbing information very quickly. The tragedy in my life is to feed the machine. Internet is a wonder: you can be on a drip all the time. Whenever I have a question, like 'How did they rescue nuclear submarines in the 60s?', I find sources, download things, find three books and it keeps me busy for three weeks. I've been marked by a book that was published in the beginning of the 80s by a neurobiologist called Jean-Pierre Changeux. The title was 'The Neuronal Man'. The ultimate thing is the neuronal functioning of organizations. You are activating synaptic connections when you need them. Without the web, this is something you can't do. The Internet has opened the way to a neuronal way of life. Look at the new professional cognitive modes, the new ways of cooperating and producing by the younger generation. The real millenials have not even arrived in organizations – they're just finishing their studies. But they're into completely different processes. They have the ability to switch from one topic to another, and they are much more multi-skilled than we were. But they are also very knowledgeable. Today, you can easily have what I call a 'vertical' approach of any topic. And have an in-depth, almost encyclopedic knowledge. Hypertext links are just synaptic connections converted into equations and IT codes. So these young guys who have grown up in this new world just don't have the same cognition modes, the same ways of acquiring knowledge, conceptualizing, producing and cooperating than their elders. And this is shaking organizations. But I'm very confident and serene. It has opened new possibilities. It has disrupted acquisition and distribution processes, but it is also allowing much quicker fact checking. I am extremely positive about all this.

The first revolution has to do with 'the age of access'. There are no limits. For a journalist looking for news and ways of checking the news, it's a new paradigm. The second fundamental change – and this is when a number of media started to get into trouble – is that access is not just on our side, it's on the public side, our customers' side as well. Meaning it's volatile. So we're losing control. The third thing with the Internet is the upheaval in our business model. The revolution in the formats has changed it all. We've had to rethink all the formats. And beyond that, you now have to consider this: an article for the web requires distinctive web editing, in line with customer behavior, designed in an attractive and user-friendly manner, taking into account SEO and Mr. Google's expectations in a very precise way. Even today, there are still some serious weaknesses. Few journalists realize that online should be at the heart of their editorial thinking, in terms of content distribution. There is a lack of culture, milestones and technical competencies on (1), web editing, and (2) organic referencing. And don't get me wrong, this is true for us as well. Here at Les Echos, you can still find articles on the web that are published using paper editing – which is useless. In terms of SEO, Mr. Google just doesn't care. Some of my team here, they have strong expertise in this. More specifically with our website for entrepreneurs, they have developed some real competencies. They are able to multiply the audience of a paper by just repackaging it.

There is no real method. It's one of my challenges at the CELSA [*note: School of Information and Communication Sciences within the University of La Sorbonne in Paris*]. We haven't fully integrated this into the curriculum of journalists. Why? Simply because there is still some mainstream thinking that this is kind of incidental and has more to do with marketing than journalism. But the nicest offer is just useless, if not packaged for the market you're in. This is true for the media, just like for sports cars, luxury leather goods, boats or household appliances. But this is still a kind of instinct at the news desk. Marketing is still a dirty word. Well no, sorry, we've got to take care.

What's happening in this team, well, there is no magic formula. First, it was a need. I've been building websites for twenty years or so. And you need to make them visible. You need to look at the numbers, evaluate and adjust. Then you need to benchmark, look at what others are doing and understand how Mr. Google works. No need to put a video online if it doesn't come with 800-character texts. Ah, no, now it's 1,400. And you've got to take care of this, and there are new legislations on duplicate content, so it's constant adaptation. It's just experience; and these guys, they should be able to produce summaries for almost any type of news, keep their eyes and ears wide open. When the ad department says it would be good to have content produced on this and that topic,

because we've got customers for this, then we should be able to react, do the right search and produce summaries.

[…] No, they have no specific domain expertise. They have their preferences, we all do. Above all, it's a different way of working here: we are more of an agency, of a studio if you wish. It's a kind of lab. So here, we work completely independently. We can ask the specialized editors at the news desk for tips and advice, but we just do what we want. We use an army of freelancers, but basically what we do here is multi-tasking. The first criteria for new hires is the diversity of experience they have, the capacity to do multi-tasking, print, online, video etc. You should be able to do almost everything. And by the way, having worked for a communication agency is a good thing, because it helps build a peaceful relationship with advertisers and the internal ad department. So these are special profiles. They don't come in high numbers, and we've trained them in a very empirical way so far. These guys, they are five-legged sheep, so the recruitment criteria, they're more linked to their 'unusual' experience. Organizations are going to need guys like this.

There is no real recruitment channel. It's more about encounters. Even the most expert guys on web editing, they are just young journalists who have been into the web, have worked for pure players and have this particular culture. It's much easier to make someone knowledgeable with vertical, expert domains as long as he or she has a journalistic brain. In just a few months, he or she will understand and master a sector. But it's much more difficult to give a web editing culture to a news pundit. That's how it is, and this is an authentic Copernican revolution, because until now the hierarchy in the media lies in the hands of the news pundits. They might be brilliant, but the media of tomorrow should not give them the keys, from an organizational standpoint. They should give them to those who know. The big names, they will be the aristocracy. But in terms of power, it should be the equivalent of a constitutional monarchy. I've been writing on organizational change for so long, what you realize is that if you want things to reach their full potential, you have to translate them in the geography, I mean the office space. At the CELSA, this is what I call 'The Three Storms Model'. What is making the disruption so profound, so telluric for the media, is the simultaneity of major changes. Each of these changes would have a structuring role in itself. But what you have is three at the same time. First, there is a technological-societal disruption. Roughly speaking, this is the Internet and how it affects content consumption. I'm using the word content on purpose. You cannot analyze the evolution of the media if you're not looking at the industry of entertainment in parallel. The second disruption is

economical, with the need to diversify your business. The third one is cultural: the added-value of the journalist is altered. He has lost the privilege of being first on the news. So he has an obligation to reinvent something, create new value – and this has to do with services, in terms of reliability, depth of the information or links to other content. It's a world phenomenon, you can find this everywhere. Then you have our friends from Germany who have been confronted to this, and who took things in a German way. This brings life to an interesting strategy, by a German daily called Die Welt. A few years ago, the guys at Die Welt, they decided they would follow things through to their logical conclusion. There is a time when you need to translate the transformation into the concrete settings of the company. They completely reconfigured office space at the news desk. Talking of a Copernican revolution, I mean, with respect to the traditional, journalistic aristocracy, here's what they did [note: see picture 1/ in main document]. This is what the news desk looks like now. The chief editors who used to be at the core, now they're on orbit, they're on the outside ring. The heart of the system is what they call 'The Eye'. This is where the new chief editors are sitting, the ones commanding the different distribution channels. Here on this side, you have the 'cold news' products, the special editions and supplements, everything that enables capitalizing on the second life or third life of the news. This is where they produce tailored content, working on attracting advertisers. This is what they are drawing margins from. We're not there yet, but the guys at Die Welt, they did it four years ago. And they're even pushing the logic further, breaking down other walls. What comes first is distribution. You can find it on Monday Notes, just google Monday Notes, Die Welt, platforms. The link is still there.

This is only possible if the system behind is consistent and the production flow is following this logic. And we're living it from the inside now, because we're implementing a new tool called Swing. It's real web-first CMS, but I can tell you this is still incredibly complex compared to the maturity they have at Die Welt. This tool we now have here, it's been experimented by other dailies, Ouest-France in particular, and it's conceived primarily for the web. The flow is optimized for online article distribution. Then what you can do is breach the online flow for another channel delivery, and access articles eligible to print production. Logically, editorial conferences should follow a different ritual now. No need for the whole menu, just the top articles that we are going to develop and feature on the website homepage, and from there, that might be the best of the print edition as well. But these editorial conference rituals, they were changed just two weeks ago, while the CMS has been in place for six months.

The workflow is determining. If the workflow is not web first, you just stay in the middle of the road. Now you can't just blame others, saying they have not measured all the consequences in terms of web editing and organic referencing. This is requiring a lot of pedagogy – and real professional training too, for those who are already working here, and the younger ones at school. The teaching of web editing is just insufficient. Just try, I'm saying to the guys, you will see that you can do it. Our record is that we multiplied the click rate by seventeen with the same paper, by just reworking the editing. The paper was titled on new tensions at the workplace. We redesigned it using bullet points and changing the title to 'The Top 5 Disloyalties at The Office'. Multiplied by seventeen. It's not always the case, but you've got to experience things, this is how you're showing the interest to others. We are in the middle of the road, so one of my personal challenges is to try and help the younger ones in this great turmoil. It is still possible to do journalism, and even to have more fun doing journalism, but one should avoid old-world models. There is real work behind, in the sense that one should acquire the culture, the business fundamentals and get accustomed to online editing. And it is better to teach journalists how to work their web editing when they are in their master degree, rather than ten years later. SEO means new imperatives, but the creativity of journalism is untouched. One of the challenges is to keep your brand distinctive, while taking care of SEO.

Talking of social networks, there are as many answers as people. To me, the first interest of social networks is accessing information. I do not tweet a lot. To me, social networks are a source of benchmark. Others have an interest to tweet, because this is giving them visibility in their sector. They can join the global talk and access sources more easily. Someone who is, let's say a political journalist, should both tweet and watch Twitter accounts. Let's call a spade a spade: managing a team of journalists means managing egos. You should keep flexible with this. You're not going to lock them in anyway. All you can do is remind them of the rules, their responsibility to their readers, and tell them they can have different lives. I have two Twitter accounts, one for Les Echos, and another one using a different name.

[…] The status of journalists has changed, and this has to do with the socio-cultural disruption I was explaining to you earlier. It has to do with the loss of their privilege – being first on the news. You can even date this: the Bombay attacks in 2008. It was the first event which was covered on social networks first. For the French microcosm, the moment when everything burst out was the Strauss-Kahn scandal. The media were not authorized but tweets were being released from the audience room. That was it. It has

led to the famous ‘infobesity’, the situation we are living today. But here again, I am optimistic. The more confusing the overall landscape, the more value you get from differentiation. The key question is how much of this value is driven by professional journalism, being trustworthy, putting the facts into perspective etc. There is a keyword among our readers, which is in-depth information. They trust we’ll give them information that helps them take decisions. And then they want in-depth information. Well if we do that, we shouldn’t be bothered by Twitter. Whenever they want to escape the brouhaha, they know they can come to us, and that’s fine. You don’t get out of situations heaping ashes upon your head, or yelling and screaming.

APPENDIX H

Interview with Anthony M.

Digital native journalist at the newsmagazine Society

(Partial transcript)

I founded a musical website with friends, the name was Dum Dum. It was based on crowd funding, but now it's stopped. In parallel to this, I was a free lancer: I started working for a cultural magazine called Snatch. At the end of 2014, Snatch is starting to decline and I'm more interested in doing longer papers, portraits, in-depth reports, that kind of things. So I sent an email to the Editor in chief at Society. I thought, okay, now I've got five days to prepare my job interview, so I did it like crazy, I found a bunch of ideas for papers, came to the interview with eight ideas and did the pitch. Steph said great, I like seven of your ideas out of the eight. Two weeks later I was off on a plane to the west coast of the US, stayed there a couple of weeks or so, and came back with four different stories. It went well. Got regular work as a free lancer, then I was hired on a long term contract. I'm on a contract since end 2016. When I created my business, I wasn't a geek at all. I wasn't into the tech things really. I was just looking for things, projects that would give me opportunities to work with dev guys. I learnt their language and ways of thinking. Me, as the editor in chief and business founder, I was always in search of new editorial projects on the Internet, trying to make things nicer, more interesting and interactive. I started reading blogs a lot, that's the moment when I discovered Wired. I got real passionate about that. So now that I'm working at Society, I'm starting to doubt a little. We do a lot of branded websites. I'm the editor of a site called Green Room. We do it for Heineken. It's sponsored by this beer brand, but we do it very seriously, editorially speaking. Now we're working with these folks from their communication agency and it's doing quite bad honestly, […] they know nothing about music. I'm tired of this. I wish I had more time for articles and interacting with readers. You just don't know, you hope they're going to read you but there's no direct interaction, no real platform except Twitter, see. So I started thinking of this and I went to Franck Annèse, the boss at SoPress, to say, I'm a little tired with what I'm doing right now, I love the company but I need stimulation, projects, digital projects mostly. We are flexible, agile guys with plenty of ideas, and real capacity to experiment things, which other publishers don't have. And I am in charge of covering the Silicon Valley

and the tech news. So I said to him, December is a weak month, so I'll take it to meet with people and work on a document that could be the base of a digital project for Society. He said okay. It was last December. I did a lot of research, found a great website called The Outline. It was launched by the guy who created The Verge and Vox Media, Joshua Topolsky. Not only is he a good journalist, he is also a philosopher of the digital press, an exceptional guru. He created The Outline you see, which to me is the first real digital project of our times. They built their own CMS – quite unusual for an independent business – with journalists and developers working hand in hand. A third of them have a technical background, which just doesn't exist in the press today. So there is constant interaction between the technical side and the content side, which is quite cool, and you can feel it instantly on their site. They're hosting Snaps and Insta stories on their site. Whenever a brand wants to do some advertising, they say okay, but we're going to do it for you. So it's integrated in a much more seamless way. Their model has a little of advertising, and a little of branded content – smart way of doing, great model. Still I did some more research, more interviews, and I realized there is one thing going on with the Facebook and Google hegemony, which is, in distributing and broadcasting the news, you are fighting with your own distributors, and that's a major problem. Your distributor is much better than you will ever be in targeting your audience. Either you're into this model and you live on advertising, competing with everybody else, or you put yourself behind a paywall. But paywalls, they have lots of drawbacks. I started collecting information on paywalls, and I found an extraordinary Dutch website called The Correspondent. To make it short, to me, that's exactly the model we should be looking for today. As a language, Dutch has 25 million speakers in the whole world, French has 250 million. See, the ratio is one to ten. Well, The Correspondent has just two times fewer subscribers than Mediapart [*Note: French community-based news site*]. Just extraordinary, they have 60,000 subscribers, and they're about to launch an American version. They hired a teacher from the University of Columbia, who is just a top level guy in journalism, to do some research and analyze the US market with respect to their model. They have a project which is called the Membership Puzzle, which is roughly a project on all the different forms of subscription to the press. They have a newsletter, and a website, everything they're doing to gauge the US market is online. So once they will launch The Correspondent there, everything they've done, all the research will be available to all publishers around the world for free, via open source. That's classy. I sent my document to Franck at the end of December. He said great job, we should really do that. The problem is, there is this serious crisis going on with Presstalis [*note: French print press distributor*] and we're

all into deep trouble, they're just killing us. Franck is just running from an emergency to another one, it's hard for him to think so much in advance. There is another guy who is quite ahead with digital and Franck asked him to start working with my doc. The idea is to find a business model that can suit us. If you look at L'Ebdo [*Note: weekly news magazine launched in January 2018 which stopped publication after three months*], it didn't work because the interaction with readers wasn't there. It just doesn't work with paper, which is too vertical. The Correspondent, they have genuine, direct relations with readers, every journalist has a newsletter. They explain how they work, sometimes they put interview transcripts online, ask readers for contributions, like: 'I'm investigating on this, I'm having trouble accessing sources. What do you think?' It all started with the Shell Oil Company in fact, they got some confidential information by a reader, recordings, etc. That was the beginning of a major scandal in Denmark and in the Netherlands. It really inspired me for my next book. I called my publisher and showed him, I said listen Thierry, why not create a site and a newsletter to do exactly the same, generate interest from readers? And do it in English too, that would help me create legitimacy with US-based sources, they're traditionally hard to get in touch with. I said let's see with your marketing guys, and they really bought the idea, so we're doing it. The site is ready, it has no URL yet, but it's coming. I'm into the templating right now.

From a journalistic standpoint, I feel like I'm not making much progress. I'm 28 right now, and I feel more in tune with the business model, how to run a business. We're a great bunch of buddies here. You see, I was proposed a job, salary was doubled. But working in the VIIIth [*note: Western, business district of Paris*] for Condé Nast, no thanks. What I'm living here is very important to me. I've become patriotic of SoPress, it really matters to me. I want to bring a little extra. I feel I can do it – I have the capacity and we can help out each other here so that this business can last, in a media landscape that is kind of hectic for sure. There is no magic formula, no next big thing.

[…] Looking at practice, I mean, thinking of the news, how to find the right angle, sourcing the news, investigation, publishing etc., except for an interface thing – I mean Wordpress or Indesign, people say there is a specific way of writing for the web, I don't buy this. They're taking online users for fools. Creating a news site today is just nonsense. Le Monde does it very well and BFM, they do it too, in their own way. Web writing, see, each time I go to Le Lab by Europe 1, each time I click, I'm really down in the dumps, I feel like a moron. It's like saying, dear reader, we know you have limited time, and we know you have limited brain connections, so we're going to explain you things as if you're dumb. I don't believe there is such a thing as web writing. Then,

whether you're doing short or long format, the business model can't be the same today. Clearly, writing long format papers means you'll get less clicks, except if it's a viral model, like, let's say, Weinstein.

[…] We have Snapchat at Society. We're one of the only publishers to have Snapchat Discover. It's got weekly themes, it's a new way of thinking the news, you're designing your format in a completely different way, it's more direct, more entertaining. There is no web technique. If you're a Snapchat editor at Le Monde, then yes, there is for sure. Now frankly, I have no idea of what it means to be fifty years old and need to use Wordpress or Droopal. I don't find it very difficult, personally. But in terms of writing, competencies, not sure whether it's very different. When you're working for the media, you have plenty of people around you with different competencies. You're not going to ask a journalist to become community manager, or to turn up the Facebook post of his article. Maybe he or she has a good idea, why not. But I don't think the journalist at Le Monde sends his post to the community manager. This is teamwork: it's about complementing each other. Better pull competencies together than train everyone to everything. The fifty-year-old guy, he's got extraordinary value from a thirty-year career, contacts and competencies we don't have; if the organization values this, cooperation can be a beautiful thing. […]

What I see now is a race for instant news. If you're first on the Toronto attack, then you get more clicks, more likes etc. But online media are impoverished, so being the first has become crucial. As a result some news is not cross-checked because you need to post. Impoverishment and instant publishing mean less fact checking, and above all everybody's copying everyone. There is no major interest in releasing exclusive news, since Le Monde, Les Echos and Le Parisien will publish it in the next twenty minutes. Even Mediapart, they will release a scoop and the same will happen: all they will be able to do is to say 'Shotgun', we were first. So the business model is about saying to people: 'Support independent journalism, we're the ones behind the bigger stories'. I'm a Mediapart donator personally, but I go to their site maybe twice a month, not more. It's a kind of civic act.

That really raises a question around the plurality of the press. You'll always get some private sponsors interested in Le Monde or Le Figaro. But the real problem is Facebook and Twitter. There's a massive problem with Facebook. They announced they would decrease the share of the news in their thread. Everybody started to scream and shout. But I think this is a good thing: Facebook should be a place to poke girls and organize

parties. Facebook is what makes people react, it creates emotion but I'm not sure it's good for democracy. Now of course, journalists need to be on networks. If you don't do that… well, unless you're working for Mediapart and you don't care for instant news, you've got to do it.

Journalists, they should care about business models, more than before. What really depresses me, see, when I was working for France Soir, I was eighteen, there were four or five guys at the web desk, and I could see all the old pundits – the kind of journalists with a bottle of Jack in their cupboard – saying, Internet, we don't give a damn, no interest. I was just saying to myself, guys, you've still got fifteen years to work, maybe twenty, and it doesn't even ring a bell to think, oops, better have a look at this. It's awareness. It's about freedom of the press at the end.

I'd say we can work without hierarchy – but maybe I'm just some sort of leftist anarchist. No, in fact, the press needs hierarchy. We need lines of authority, based on competence. Here the three chief editors, I mean the two plus Franck, they're really the best. Steph, the editor in chief, he is a marshmallow guy, not to say he has no charisma, but he plays it rather low profile. But he is so good at what he does, his decisions are right. I'm not being paid to say this, in fact he's a good mate, but he has this kind of natural authority that comes from competence. The problem with bigger publishers is that you never know if competence really matters. What is really cool at SoPress is that you've got journalists, the two chief editors and Franck. Period. No section editors. This light hierarchy works out very well because our corporate culture makes it possible.

I get bored quite fast, so I need to have plans for the next six or twelve months. […]. I need stimulations all the time, making projects. The project with Society, it's giving me food for thought, trying to solve problems. […] There are two joint crises, with Presstalis and Facebook. From there, the soft underbelly of news publishing is going to shrink. On the one hand, more brands will have editorial projects. Maybe one day there will be something like EDF News [*note: EDF is the French electricity utility*], you see. On the one hand, the world of news and the world of brands will have stronger connections, and on the other hand what you'll get is 100% independent publishers, like Mediapart etc. In the middle, the soft underbelly is going to suffer. Some will disappear and some will survive based on the Facebook and Snapchat model. In this context, the job will differ according to where you work. Doing the marketing job for brands. Running the rat race in the middle. Or reinventing relations with readers, reinventing the news with strong publisher image, so that people want to support you. It doesn't mean

that the people who support you will not go to other news channels, like Veolia News [*Note: Veolia is a French water and waste utility*].

What I like most is thinking of the future. Then the second thing is interviews. Interviews, I just love that. You're starting from a blank page, there is no safety net. See, the moment when I'm really happy in life, is when I got twelve 'no' in a row, and the thirteenth time is a 'yes'. I've been after Steve Bannon for a year and a half to get an exclusive interview. It's just an anecdote, but he was a speaker at the National Front congress and I sent him an email on the Friday before. Now it's 'Hi Steve', see, no more 'Mr. Bannon'. 'I've seen you're at the congress in Lille so maybe you'll stay in Paris and we can get in touch, blah blah.' I got an email from his press agent on the Sunday morning, like, 4 am. She was asking me to pitch on Society for the fortieth time or so, and then I got another email from Bannon saying 'We'll try to meet later at the Bristol'. I went there at 2:30 pm. Waited all afternoon in a café there. Then I went to the hotel at 7 pm. Guess who's getting here, entering the lobby right in front of me: Julien Dray [*Note: French MP*]. I'm just thinking, ah, okay. Dray leaves 45 min. later. And then I'm getting another SMS by Sean Bannon who is probably from Steve Bannon's family, who says sorry, it's cancelled. So I decided to get back home, then got another SMS by Sean Bannon, 'can we meet?' Okay, I'll be back in 45 min. Then another SMS, 'No, he's tired. He's not going to make it.' This is how I missed Steve Bannon. A couple of days later, I sent a SMS to Dray, saying 'How was your meeting with Steve Bannon?' He says what do you mean, never met anyone, you're talking rubbish. I'm saying oh really, weren't you at The Bristol on Sunday evening? Then I'm getting a nervous phone call from Dray, 'What the fuss with The Bristol?' I'm saying Bannon was there, he was attending the National Front congress. Guess what he said: 'I don't know who Steve Bannon is'. He really stuck to this version, so I couldn't get more and never had a chance to see Bannon since. I was on a long paper report covering the international far right connections, it's happening at the moment. There is a central woman on the rise in France, and she's called Marion Maréchal, so I'm trying to access information – very hard, very difficult to do. What I really love is to bring stories to the surface, contacts with people too, being able to talk to people. See, we've done a special issue on the US just before the election. I went to the county which most voted Trump, in West Virginia, in the Appalachian Mountains. They call it the Coal County, old coal mines, a place where people used to live well, and with the environmental policies by Obama it's in jeopardy. So there is complete hate of Obama and Clinton. See, I'm far away from a Trump elector from the Appalachian Mountains, but there is instant empathy with the people when you're there. So the paper, just imagine the paper by Le Petit Journal

[*Note: French news and entertainment TV program that stopped in 2016*]: ‘These irredeemable morons, they’re voting for Trump, they don’t understand that coal is bad for the environment’. But environmental policies, they’re not always perfect. I’m an environmentalist, like most people I guess, but what you’re getting is poverty, anger and Donald Trump. And there are plenty of places like this in the US. This is one of the news reports I’m most proud of, because you’re sharing a slice of what people are living. You want to understand the world, be able to tell people what you’ve understood. See, I interviewed Bill Gates once. I was terribly stressed and nervous. Great, I did it, I interviewed Bill Gates. It’s over, period. He didn’t tell me much in fact. I’d rather do an in-depth report in the Appalachian Mountains and meet with Joe, who founded his own construction business years ago. He is having a hard time now making both ends meet, and he is going to tell me about life. I like it better, by far.