

HOW ICT CHANGE BORDERS BETWEEN PERSONAL LIFE AND PROFESSIONAL LIFE? UNDERSTANDING FOUR MODELS OF PERMEABLE FRONTIERS

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ABSTRACT

Several studies have shown that the increasing use of information technology and communication (ICT) in the professional and personal life has largely contributed to the blurring of boundaries between these two spheres. This paper examines the reorganization of the boundaries between professional and personal life from the perspective of individual investment in relation to ICT. It presents hypothesis of four models of relationships between personal and professional life, based on specific forms of ICT use: the segmentation model, the integration model, the hybridization model and the spillover model.

KEYWORDS

Permeability, personal life, professional, ICT use, symbiosis, patterns of interaction

1. INTRODUCTION

The information and communication technology (ICT) have drastically changed our relationship to family and work. Edley (et al. 2004) showed that the effect of these technologies on work-life boundaries is paradoxical, since it makes the continuation of such boundaries problematic and provides supplementary resources to manage the transition from one sphere to another. More specifically, in his work on technologies such as cell phones or laptops, Edley (2001) noted that these technologies shape the borders through disorganization of times and places, previously assigned clearly, to work and personal life. Even though, the existence of large agreements and functionalities confuse the boundaries between work and personal life. But on this topic, there are few studies on the specific forms taken by these new mixed uses. How individuals and organizations use these technologies, both to segment and integrate work and personal life? What strategies or practices that individuals develop to deal with this phenomenon? What are the modes of regulation of the borders's permeability? How does permeability shape the relationship between professional and personal life?

First, we begin by summarizing the theoretical framework. Second, we present our four models, its main variables and its functioning. Finally, we characterize different types of permeability between personal and professional life.

2. PERMEABILITY OF BORDERS AND ICT USE

2.1 Theoretical Background

2.1.1 The theory of "work-family boundaries"

Work and family are two different spheres that mutually influence each other. Working adults attempt to develop boundaries around their work and personal lives, which vary in strength. The strength of these

boundaries influences the results of the interaction between professional and personal life (eg, conflict or work-family satisfaction). It emphasizes the importance of work-life balance, which refers according to Clark (2000) to the satisfaction and good functioning at work and at home, with a minimum of role conflict.

This approach of borders includes not only psychological borders, but also, the tangible borders that divide the time, place and people associated to work and to family (Desrochers & Sargent, 2003). In the literature, there are three main types of boundaries: physical, temporal and psychological (Clark, 2000):

- Physical boundaries like the walls of a workplace, an office, a store, or the walls of a house define the place where appropriate behavior on a particular domain must be kept.
- The temporal boundaries, such as work schedules separate the time during which the work is done from the time when family duties can be accomplished.
- The psychological boundaries represent the set of rules created by individuals and which dictate when the patterns of thought, behavior or emotions are appropriate for a domain and are not for another. The psychological boundaries are largely self-created (Rychlak, 1981), however, the physical and temporal boundaries can be used by individuals to determine the rules that constitute the psychological boundaries.

In short, the theory of work-family boundaries chosen as the basis for our work proposes elements for understanding the implications of different ways of articulation between life's domains, it gives us some answers on various ways in which individuals create, maintain and modify the temporal, physical and psychological boundaries, to manage multiple roles in their lives (Ashforth et al., 2000). But its main limitation is that it does not have integrated ICT as a new determinant variable of the permeability of borders. Indeed, with ICT, individuals are connected everywhere and all the time. In every domain of their lives, individuals play one or more roles; employees, parents, consumers, students, spouses, players, etc., individuals don't have only to manage transitions between interfaces but also between their roles.

On this point of view, Ashforth & al. (2000) consider that the various practices of border management influence the experience of work-family conflict, which is considered as the primary source of stress at work. For this reason, several studies on the relationship between personal and professional life have been developed from a point of view more conflictual. The basic premise of this conflict model is that the resources that individuals have in time and energy are limited and must be invested in every role they perform. The conflict occurs when one's role requirements become incompatible with those of another role. There are three forms of conflict between work and non-work, each form is based on a particular element: the time-based conflict, the strain based conflict and the behavior-based conflict (Greenhaus & Beutell, 1985). These three forms of conflict have a negative impact on job and life satisfaction (Allen & al., 2000), depression (Frone, Russell & Cooper, 1992) even if little research were interested in the positive impact of the holding of multiple roles. The agility of the transition from one domain of life to another, the flexibility in management roles or the fluidity of private and professional spheres will influence a number of variables, among which we find: professional effectiveness, personal satisfaction or balance that can be achieved between personal and professional life (Kreiner, 2006). The permeability of borders becomes central question of good living of human and social relations.

2.1.2. Theories of ICT Use: Resistance, Acceptance and Human-Machine Symbiosis

According to Brangier and Hammes-Adele (2011), different forms of technologies use have been conceptualized, but it seems possible to group them into three main models:

- The resistance to use: The technology is rejected by individual. This may be due to the fact that he has a very negative judgment about technology or that some social, cultural, cognitive reasons prevent the use of this technology.
- The technology acceptance: Acceptance reflects a kind of instrumental appropriation of technology; it consists to perform some tasks without changing the individual's ways of working. In this case, the use of technology by individuals can be either deliberate or forced. The acceptance is due to the fact that this technology involves some criteria of usability and usefulness.
- The human-technology symbiosis: The technology integrates naturally people's lives (work and life). This model reflects a full ownership of the technology in which the use is clear and frequent. Individual can no longer make a distinction between personal and professional technologies. Indeed, technology is an extension of himself and his abilities.

These three models of relationship to technology do up the graduation of permeability between humans and technology: refusal or perception of sealing; acceptance or perception of porosity; symbiosis or

perception of fusion. The proximity between humans and technology, accelerated by current ICT that are more and more symbiotic, seems directly impact the permeability of border between professional and personal life. The use of technology allows individual to overcome the temporal and spatial boundaries of his different life's domains. The frequencies of interruptions from one domain to another become higher. These interruptions are permitted by the permeability of boundaries that has been exacerbated by the use of information technology and communication. It should be also noted that the type of technologies can influence the permeability of borders. Indeed, by its characteristics some technologies promote either the permeability of work borders, or the permeability of personal borders, more than others. For example, the use of mobile phone supports more permeability than other technologies (Chesley, 2005). Tennakoon (2007) shows that the cell phone supports more work borders permeability toward personal activities.

2.2 Four Models of Psychological Investment Related to Technological Use and Permeable Borders

The permeability of borders becomes a central question of good living of human and social relations, especially when technologies are more and more used. Given to types of technologies in his possession and its degree of perceived symbiosis, individual will have professional's and personal's borders more or less permeable in one direction or in another. This permeability will lead to different behavioral styles that reflect the emphasis on personal or professional life (Fig 1).

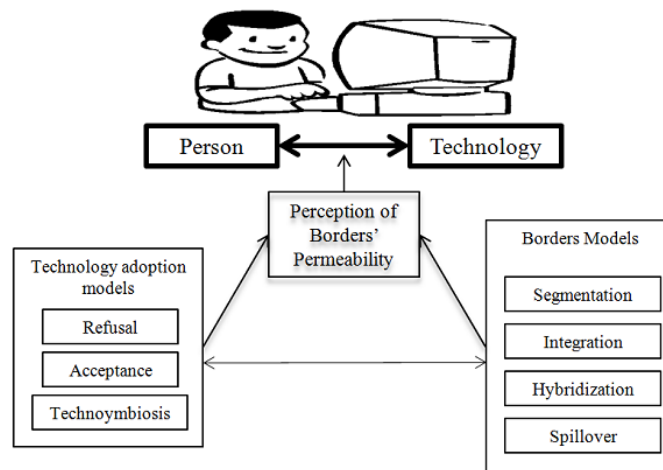


Figure 1. Relationship between technology adoption models and border models.

The notion of style supports the idea that there is a continuum reflecting the degree to which work and non-work can be separated from one another or integrated into each other (Nippert-Eng, 1996). More specifically, the permeability reflects the degree to which the individual can be psychologically and / or behaviorally engaged in one domain, but physically and temporally present in another. For example, individuals with strong borders only work in the office during working hours. They do not perform professional activities at home or out of the office. Similarly, all activities related to personal life are treated outside the office during their personal time; they refuse to think about personal issues at work. Conversely, people who have fragile boundaries between the two domains usually do little distinction between time and space devoted to work and those devoted to personal life, so they may think or engage in one or another role at any time. Pleck (1977) had originally proposed this idea to emphasize that the most powerful domain would be able to have stronger borders around it (allows less permeability). To sum up, the majority of work related to permeability styles considered the border crossing as unidirectional (Rothbard, Phillips & Dumas, 2005). Other studies have, however, considered that the boundaries between work and non-work are bidirectional (Pleck, 1977). This last approach considers that the degree to which work and non-work interpenetrate depends on the spillover of work on the personal life and vice versa. For example, some people keep their personal lives outside work, but have no problem to let their professional life penetrate into their personal life, while others do the opposite. Thus, the strength of personal life borders reflects the degree to

which the individual's professional role penetrates (psychologically or behaviorally) in time and / or space of his personal life. Consequently, the strength of the border is a parameter that allows us to identify different models of permeability; models that take into account current technology and are characterized as follows:

2.2.1 The Segmentation Model

People who adopt this model prefer to keep their life domains as distinct as possible. They create boundaries or mental fences (Zerubavel, 1991). They prefer to keep work at work, home at home and leisure and other personal activities in places and time allocated to. They tend to build physical, emotional and/or cognitive barriers, between these domains in order to keep them separate. *"I don't want to be contacted on Saturday (...), I never answer calls business during my weekend, before I did it, but now I want to repose". (Regional director of a bank, man, married, 51 years old, two children)*. Nippert-Eng (1996) gives the example of individuals who choose to separate their personal and professional domains by keeping distinct key chains, trying to not think about questions related to one domain in the other domain. These individuals will develop practices of ICT use to help them to separate their life domains such as: turn off their phones once arrived at home, do not reply to professionals mails during weekends and holidays, do not use ICT at work for personal needs, do not use the same technologies in both domains, have distinct personal and professional mail addresses, assign specific ringtone to each contact to screen calls ... as if the individual give to the technology the responsibility of keeping the borders between these domains of life impermeable. Strategy thus described consists in giving technology the role of "keepers-borders" in the term of boundaries' theory (Clark, 2000).

2.2.2 The Integration Model

If the preference for segmentation reflects the desire to separate the personal from the professional life, the integration is entirely the opposite. The "integrators" prefer to adopt elements of both domains, essentially by eliminating the boundaries between them and mixing their different facets. In the study of Nippert-Eng (1996), integrators will show their family photos in the office, talk about their families at work, etc. Ashforth et al (2000) have argued that for people who integrate different domains of their lives, the boundaries are highly permeable. The individual integrate these different roles in a holistic experience.

"I make often personal calls from my office". (Director of public administration, women, single, 35 years old)

2.2.3 The Hybridization Model

Hybridization is a very advanced degree of integration. Technology is used in personal life to deal with professional issues, such as responding to professional emails, planning business meetings. This will highly increases the permeability of personal life borders. The technologies generate a kind of porosity that is harnessed by the user by increasing its symbiotic relationship.

"I often work at home, after everyone sleeps, with my laptop; I'm trying to catch the backwardness, (women, Inspector public finance, married, 48 years old, two children)

The opposite is also true, personal life penetrate professional life, technologies present in the workplace are also used for personal needs. Interactions are sometimes completely decontextualized. Telephone, mail, and other technologies are not connected to one specific domain or role, are never switched off or out of service. Users are provided with more autonomy and flexibility while staying reachable by others (Kakihara & Sorensen, 2002). In this sense, the mobile phone number (example) becomes his fixed reference point providing him with connectivity and instant communication (Arnold, 2003) independently of his location. This is usually the case of individuals in high symbiosis level with ICT, at least we do the hypothesis: technology is an integrated part of their life, whether at work or at home. It increases his/her capabilities and assists him /her in all his activities. The use of technology becomes evident and the individual cannot live without.

2.2.4 The Spillover Model

The increasing use of ICT (especially Smartphone and computers) in their daily practice puts people in a situation of high connection. The temporal and spatial boundaries are blurred by the extreme and uncontrolled integration of work and personal life, leaving them with the feeling that their office is always present, even when it is physically distant and their families, friends, are reciprocally always present, even in the workplace. This overflow between work and non-work, mainly due to the use of ICT refers to the interpenetration of the two domains in each other. But in the difference of integration described above, the

permeability of borders, in this case, is rather a sustained permeability or uncontrollably porosity. The individual has no control over the way he use technology to manage the boundaries of his personal and his professional life.

“Technologies, especially mobile phones have increased my working day, even at home, I answer calls from my colleagues, I often say that it may be an emergency” (bank worker, man, married, 37 years old, no children)

Two cases may arise. The spillover of work in the personal life, this is the case of individuals who have a high workload, very low flexibility at work and high access to ICT. The second case, the most commonly encountered among women is the spillover of personal life in the workplace. This could be due to the fact that women workers retain primary responsibility for home and family matters. ICT is used at work to resolve personal issues. Contrary to the integration, the permeability of borders in this case can lead to frustration, stress and feelings of failure for individuals (Costello, 1988).

2.2.5. Discussion

The difference between these four styles between professional and personal life comes from a key moderating variable: the individual perception of boundary control. This is defined as the degree to which a person perceived that he maintains the control of how he/she manage the boundaries between his personal and professional life.

According to the theory of symbiosis, technologies increase the capacity of the individual as a co-extension of him/herself. In the case of the relationship between symbiosis and style of border management, technologies increase the resources of the individual and the degree of perceived boundary control. This allows them to enact the boundary management style they wish and so, to find the desired balance between their two domains of life.

The separators will feel that they will be able to focus on one role at a time without stigma. In the integration or hybridization model, person become able to multitask, they can, for example perform professional tasks and make a personal appeal from work to ensure that the child comes home, without penalty. In the spillover model, individual have a low perceived boundary control. Conjugated to high professional and personal responsibilities, as well as a high access to ICT, the permeability of borders become sustained and uncontrollable. Individual lose the control of the way he can use technology to manage borders between his life's domains.

The consequences of these different styles of border management will vary from the satisfaction and balance between work and personal life to the conflict and dissatisfaction, whether at work or in personal life. This will push people to reconsider their use of ICT. Thus, people who feel that the use of ICT help them to achieve balance between their two domains of life, will maintain their use or even develop it. While, those who feel that the use of ICT and permeability which ensues has made maintaining the balance between their spheres of life problematic and conflictual will decrease their use or even reject the technology.

3. CONCLUSION

This paper suggests the existence of four models of relationship between professional and personal lives. It seeks to emphasize the importance of the use of ICT in the management of boundaries between life's domains. If ICTs are fabulous devices of communication they reshape the distances and barriers allowing individuals to feel close when they are geographically distant (Wilson, 2008). But they can also impose on individuals the obligation to deal with unexpected interruptions. Therefore, it becomes important to understand the use of ICT to deal, harmonize and regulate transitions between these domains and their roles and analyze strategies they adopt to enhance human, social and technical performance.

REFERENCES

- Allen, T.D. Herst, C.S. Brucket M. Sutton, 2000. Consequences Associated with Work-to-Family Conflict: A review and Agenda for future Research. *Journal of Occupational Health Psychology*, 5 (2), pp. 278-308.
- Arnold, M., 2003. On the phenomenology of technology use: the “Janus faces” of mobile phones. *Information and organization*, 13, pp.231-256.

- Ashforth, B. E., Kreiner, G. E., & Fugate, M., 2000. All in a day's work: Boundaries and micro role transitions. *Academy of Management Review*, 25, pp. 472–491.
- Brangier, E., & Hammes-Adel , S. 2011. Beyond the Technology Acceptance Model: Elements to Validate the Human-Technology Symbiosis Model. In M.M. Robertson (Ed.): *Ergonomics and Health Aspects, HCII 2011, LNCS 6779*, pp. 13–21, 2011. Springer-Verlag.
- Carlson, D.S., Kacmar, K.M., & Williams, L.J., 2000. Construction and initial validation of a multidimensional measure of work-family conflict. *Journal of Vocational Behavior*, 56, pp. 249–276.
- Chesley, N., 2005. Blurring boundaries? Linking technology use, spillover, individual distress, and family satisfaction. *Journal of Marriage and Family*, 67, pp. 1237–1248.
- Clark, S. C., 2000. Work/family border theory: A new theory of work/family balance. *Human Relations*, 53, 747–770.
- Costello, C.B., 1988. *Clerical home-based work: A case study of work and family*. In K.E. Christensen, ed. *The new era of home-based work: directions and policies*. pp. 135–145. Boulder/ Westview.
- Desrochers S. & Sargent, L., 2003. *Boundary/Border Theory and Work-Family Integration*. A Sloan Work and Family Encyclopedia Entry, Chestnut Hill, MA: Boston College.
- Edley, P.P., Hylm , A. & Newsom, V.A. , 2004. *Alternative organizing communities: Collectivist organizing, telework, home-based internet businesses, and online communities*. In P.J. Kalbfleisch (Ed.), *Communication yearbook 28*. Mahwah, NJ: Lawrence Erlbaum Associates, pp. 87–127.
- Edley, P.P., 2001. Technology, employed mothers, and corporate colonization of the lifeworld: A gendered paradox of work and family balance. *Women & Language*, 24(2), pp. 28–35.
- Frone, M. R., Russell, M., & Cooper, M. L., 1992. Antecedents and outcomes of work-family conflict: Testing a model of the work-family interface. *Journal of Applied Psychology*, 77, pp. 65–78.
- Greenhaus, J.H., Beutell N.J., 1985. Sources of conflict between work and family roles. *The Academy of Management Review*, vol. 10 n 1, pp. 76–88.
- Gutek, B.A., Searle, S. & Klepa, L., 1991. Rational versus gender role explanations for work-family conflict. *Journal of applied psychology*, 76, pp. 560–580.
- Kakihara M and S rensen C. 2002. Mobility: An Extended Perspective. *The Hawaii International Conference on System Sciences Big Island, Hawaii*, January 7–10.
- Katz, J. E & Aakhus, M., 2002. *Perpetual contact: mobile communication, private talk, public performance*, Cambridge University Press, Cambridge.
- Kreiner, G. E., 2006. Consequences of work-home segmentation or integration: A person-environment fit perspective. *Journal of Organizational Behavior*, 27, pp. 485–507.
- Lobel, S. A., 1991. Allocation of investment in work and family roles: Alternative theories and implications for research. *Academy of Management Review*, 16, pp. 507–521.
- Linville, P. W., 1985. Self-complexity and affective extremity: Don't put all of your eggs in one cognitive basket. *Social Cognition*, 3, pp. 94–120.
- Method, J. R., & LePine, J. A., 2009. Proactive boundary management: Examining the functionality of role segmentation preferences. *The 24th Annual Conference of the Society of Industrial and Organizational Psychology*, New Orleans, LA.
- Nippert-Eng, C. E., 1996. *Home and work: Negotiating boundaries through everyday life*. University of Chicago Press, Chicago.
- Olson, B. J & R. Boswell, W., 2007. The use of communication technologies after hours: the role of work attitudes and work-life conflict. *Journal of Management*, 33, pp. 592–610.
- Pleck, J.H., 1977. The work-family role system. *Social problems*, 24, pp. 417–427.
- Rakow, R.F & Navarro, V., 1993. Remote mothering and parallel shift-women meet the cellular telephone. *Critical Studies in Mass Communication*, Vol 10, n 2, pp. 144–157.
- Rothbard, N. P., Phillips, K. W., & Dumas, T. L., 2005. Managing multiple roles: Work-family policies and individuals' desire for segmentation. *Organization Science*, 16, pp. 243–258.
- Tajfel, H., Turner, J.C. (1985). *The social identity theory of intergroup behavior*. In S. Worchelet W.G Austin (eds). *The psychology of intergroup relations*, Chicago, II: Nelson-Hall, pp. 7–24.
- Tennakoon U, S., 2007. Impact of the use of communication technologies on the work-life balance of executive employees. Managing worldwide operations and communications with information technology.
- Wilson, J.M., 2008. Perceived proximity in virtual work: explaining the paradox of far-but-close. *Organization Studies*, 29 (7), pp. 979–1002.
- Zerubavel, E., 1991. *The fine line*. Free Press, New York.