The other faces of the prosumer: a review of the foundational concepts of pro-am (professional amateur) and maker

Las otras caras del prosumidor: una revisión a los conceptos fundacionales de pro-am (amateur profesional) y maker

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The concept of prosumer, with four decades since it was coined by Alvin Toffler, has remained the most prevalent conceptual term in studies on consumption-production. However, different concepts that add nuance to the idea of prosumer have been appearing throughout, at least, two decades. Thus, the objective of this work is to carry out a review of the heuristic elements of two relevant, and considered foundational, concepts in this area, to extend the terminological range in this field of studies: the pro-am and maker concepts.

KEYWORDS: Pro-am, makers, amateurs, prosumer, presumption.

El concepto de prosumidor, con cuatro décadas cumplidas desde que fuera acuñado por Alvin Toffler, se ha mantenido como el término conceptual más prevalente en los estudios sobre consumo-producción. Con todo, distintos conceptos que matizan la idea de prosumidor han ido apareciendo a lo largo de, al menos, las dos últimas décadas. Así, el objetivo de este trabajo es llevar a cabo una revisión a los elementos heurísticos de dos conceptos relevantes, y considerados fundacionales en este ámbito, para extender el abanico terminológico en este campo de estudios: los conceptos pro-am y maker.

PALABRAS CLAVE: Pro-am, maker*, amateurs, prosumidor, prosumisión.*

PROSUMER: A TRANSVERSAL CONCEPT

Those of us who work in the field of communication and in different disciplines crossed by questions from and towards the issue of technology and digital objects, whether from cultural, political, educational or economic debates, we have been able to give an account of how the concept of *prosumer*, circulating since the beginning of the eighties in the academic literature of the social sciences, has paradoxically gained more presence at the expense of losing essence –for this, it is enough to give a brief review of different approaches and the recent states of the question about different aspects of its development (Alonzo, 2019; Aparici & García-Marín, 2018; Bueno, 2018; Hernández-Serrano et al., 2017)–.

However, the documentary review allows us to sense that the problem is not that the concept has fallen into explanatory obsolescence (something that is presumed natural in a theoretical construct with four decades of age) but rather, for different and unknown causes, that its use has been anchored to general problematizations about prosumption to immobilize itself, as a consequence, in its original definition.

This happens, we speculate, because by making such a ductile reference to a type of actor (and to a process) that we can see across the wide range of phenomena of use-consumption-production, appropriation and distribution, historical research has not felt the need to trace and include more recent constructs with a degree of specificity in particular aspects of the different processes of presumption.

With this problem identified, the intention of this review wasn't to return to the debate on the health of this concept (for that, as said before, there are valuable and recent investigations) nor to inquire into the reasons for this immobilization but, rather, to trace, present and develop two concepts that, being of relatively recent appearance but with increasing importance in the current research agenda, offer particular, extensive and complementary readings to the more traditional, historical and plain one of the prosumer.

THE ORIGIN OF THE IDEA OF THE PROSUMER

When in 1979 Toffler published *The Third Wave*, a work in the tradition of Futurism of the sixties (Toffler, 1972), the concept of *prosumer* (short for producer-consumer) arose as a bridge that linked old economic intuitions and sociological processes emerging by then. The image of Toffler, recognized as an author who oscillated between serious academic work and the apologetics of the sociotechnological age (Mattelart, 2002), promoted the concept to rapidly gain ground and, as a consequence, to begin to have a notable place in the catalog of neologisms of sociology and propaganda proclamations about technologization in contemporary societies (Mattelart, 2002) .

From there, and in an essential way, it can be summarized that the idea of prosumer is based on assuming that the economic relations of production, from the end of the middle ages to the present day, have been marked by their transformations in three well-differentiated stages:

1) The one of the producer-consumer, in which economic agents personify those who consume what they produce in a subsistence economy; that is, limited to covering the most elementary aspects of people's daily life, such as the self-production of food and clothing.
2) The one of the instrumental differentiation, where advances in production modes become specialized and more complex, thus allowing the separation of economic activities into two large categories –also highly specialized– which are production and consumption.
3) One in which technical conditions and the organic fragmentation of mass social structures allow a return to the producer-consumer but, on this occasion, in the presence of a market economy and a context of technological interdependencies between production and consumption in different layers and levels (Aparici & García-Marín, 2018; Srnicek, 2019).

Although in the field of economics the phenomenon of differentiated economic production stages was definitely far from being unknown (Srnicek, 2019), the active role of intellectual town crier played by

Toffler at that crucial moment of speculation and effervescence on the nature of the media and technologies, and the simplicity of its application without formulas or econometric equations, allowed to establish its leading role, accelerate its disciplinary export and win the sympathy of popular science writings. Undoubtedly, with the idea of prosumer, "a new classic" was born, which expanded rapidly between disciplinary limits and, although the concept was confronted (somewhat arbitrarily) (Alonzo, 2019) with the concept of EMEREC –short for émetteur-*récepteur* (transmitter-receiver)–, coined and popularized by Cloutier (1973), the latter was limited to communicational situations, particularly audiovisual ones, which reduced it to a much narrower referential scope.

Although throughout the following two decades the concept remained highly valid, its true demonstrative relevance would not arrive until the end of the 20th century with the appearance and advance of the Internet, a ground where, despite being a notion articulated *to think* about the pre-digital era, it landed again to define a set of relationships that gave the thriving information society its purest essence.

THE MEDIATIZATION PROCESS
AS A TRIGGER FOR DIFFERENTIATED PROSUMPTION PROCESSES

Mediatization as a process, although is subject to different traditions and explanations and is not exempt from deterministic temptations at the technological extreme, undoubtedly remains the cornerstone for understanding the configuration of 20th and 21st century societies (Couldry & Hepp, 2013, pp. 191-193). Today, retained in the confluence of computerization and digitization of the last two and a half decades, mediatization aims to see the parallel race between technological development and the dependence of today societies on it (Knoblauch, 2013, p. 297). Seen from this perspective, today's mediatization implies not only that the processes of social organization depend on technological-media ecosystems but, above all, on their digital processes; processes where the essence of the equation consists in the possibility of transforming atoms into bits (Negroponte, 1996) and, therefore, to dematerialize and virtualize content and interactions.

According to Jansson (2013, p. 280) digital mediatization dilutes the distinction between text and context, makes content of different types, genres and formats between different platforms, interfaces and users converge, and attenuates the fine line that separates content production from consumption (Jansson, 2013, p. 280).

As a consequence of these conditions, the ability of individuals to be audience, producers, users and consumers at the same time arises, situations that, depending on their metaconfiguration, allow the emergence and differentiation of different forms of prosumer, such as the pro-am and the maker, which are explained on the following lines.

Methodological route

The intention of this brief study was to recognize the main definitions of the two proposed foundational concepts (pro-ams and makers); as mentioned before, our interest came from our own experience in day-to-day work regarding prosumption issues, where it is visible that these concepts have been gradually integrated into the explanatory base of recent topics and objects of research, but where these terms are often contained or assimilated to the general and Tofflerian definition of prosumer.

Thus, the question aimed to know what defining elements are at the base of the two concepts; to achieve this, the first methodological decision that was made was to identify whether they were foundational concepts (that is, based on the argument of an author, or group of authors, presented on a particular work) or, rather, concepts resulting from the convergence of multiple authorship or derivations of various works. Subsequently, depending on one or another result, the original works would be compared to find their components and explanatory nuances (heuristic cores) in order to be able to present them as descriptive or explanatory entities, separated or linked to a greater or lesser extent, of the original concept of the prosumer.

From there, given that the objective was not to make a state of the art or a conceptual history of them (Alonzo, 2019, p. 5) but simply to identify the origins in terms of authorships, it was decided to design a hemerographic immersion that we call *harversting*, which consists of

identifying the main hemerographic documents (journal articles) that show a priority interest in this conceptualization (Merriam & Tisdell, 2015) to subsequently identify the raw sources and main authors referred in the works (Booth et al., 2016, pp. 80-82; Thomson & Walker, 2010, pp. 215-216). Once this is achieved, the main heuristic cores of each concept would be compared in general terms.

We call it "harvesting" because, unlike snowball sampling aproaches (Flick, 2015, p. 65), in which the intention is for the authors to heterodesign and open the range of visibility to other authors (or informants, where appropriate), in this type of data collection it is intended that the authors of the works identified in the field of interest within the existing range (Trimmer, 2012, pp. 20-22), "gather", focus and point out in a limited way (filtering data) to the works and main authorship that gave rise to the concepts.

On the other hand, we chose to work based on hemerographic documents given that the dynamic nature of publication in hemerographic documents, in addition to allowing access to the most recent literature (Merriam & Tisdell, 2015; Yin, 2015), allows the use of different types of historical metrics that simplify the process of harvesting and systematization. Regarding document extraction, the Web of Science (WoS) indexing base offers two very useful tools for the type of extraction we were interested in: "most cited articles" and "related citation".

Thus, in Web of Science, via JCR (Journal Citation Reports) and based on the search in title of the pro-am and makers descriptors, available through the function "most cited articles" + "related citation" (1980-2020), the following data were obtained: 16 articles for the pro-am descriptor, being Charles Leadbeater and Paul Miller the authors directly related to the concept/most cited –116 citations to the work *The pro-am revolution* (2004)–; and 11 articles for the makers descriptor, being Chris Anderson the author directly related to the concept most cited –434 citations to the work *Makers, the new industrial revolution* (2012)–. With these data in hand, we then refer to the founding reference works: *The pro-am revolution* and *Makers, the new industrial revolution*, to identify in them the main heuristic cores. In relation to this last procedure, what we call the identification technique of stance

markers was used, consisting of reducing the texts, from identifying the most frequent arguments and statements, to the basic stances held by the concept.

PRO-AMS: AMATEURS WITH PROFESSIONAL STANDARDS

While the amateur has generally been associated with the world of sports, hobbies and media entertainment (and in this sense, closer to the fans widely popularized by Henry Jenkins) and, from there, as a type of actor more curious than interesting, the idea of pro-am gives them back agency and an active role not only in the cultural scene (Hills, 2002), but also, and especially, in the economic one. However, the term, as used by Leadbeater and Miller, does not refer to any type of amateur, but to a very particular one whose performance standards are homologated with those of professionals: the pro-am (short for *amateur professional*).

In this sense, although the term *pro-am* has been used throughout the 20th century and to this day to describe the amateur who competes or participates in the professional circuits of their activity of interest (Stebbins, 1992), the term was re-coined by Leadbeater and Miller in their book *The pro-am revolution* (2004) to designate a new type of economic actor (and that is clearly identified as a form of prosumer (p. 21) that, based on informal knowledge, collaborative networking and the presence of high-quality work standards (almost professional), turn their hobbies into means of innovation and their activity into a valuable global promoter of research plus development activities (R+D) and the expansion of independent spaces for growing and storing vast bodies of specialized knowledge.

Although amateurs with professional standards can be in any activity (from table tennis to astronomy), the important thing is that a considerable part of the knowledge they possess, consume and share depends on digital technologies and the reticularized prosums of their peers and other related actors. Armed with the incredibly cheap and accessible arsenal inherited from the digital revolution, they are actors who do what they already did before that revolution (cultivating their hobbies earnestly and with expert systematization) but now aware of

the power to create, usually in cyberspace although not reduced to this, new and powerful communities of learning and practice (Wenger et al., 2002), often generating ad hoc learning objects, exchange and practice circuits and giving dynamism to cooperation networks of different kinds.

A central element that articulates and gives place to the pro-am phenomenon (and that is taken for granted) is the so-called "expert crisis", a current context where the general constraints imposed by professional fields, such as a poor quality of education in the contemporary university (Laval, 2004), the little time available for updating, the legal barriers in practice and the almost zero possibility of experimenting informally or without assuming high risk margins, have led to these historical experts, the professionals, to be equaled or even often surpassed in their achievements by these new players. Although the work offers a broader vision of the role of innovation in the knowledge-driven economy, it can be stated that the typification of this type of prosumer is reduced to two major imperatives:

1) That by operating through co-creation, low-risk investment and by being exposed to the circulation of new and specialized ideas and knowledge, but away from organizational and corporate constraints, pro-ams unencapsulate previously hermetic or watertight knowledge, they share it and thereby they stimulate the kinds of experimentation and learning that naturally lead to innovation (R+D).
2) That pro-ams, by forming more and better communities of practice every day, encourage the production, reproduction and circulation of valuable forms of cultural and social capital while strengthening democratic structures in today's societies.

Furthermore, throughout the work it is possible to find a presentation of important various numbers, based particularly on the English case, regarding the impact and development of the pro-am economy at the beginning of the 20th century.

MAKERS: WHEN "DO IT YOURSELF" BECOMES ENTREPRENEURSHIP

Makers, in the plain and common definition, are people who "make things". It can be a bookcase or a shirt, but they usually focus on crafting mechanical gadgets or utilitarian technological objects (drones, robots, specialized machinery) and their parts and pieces. They design, manufacture, repair and assemble. For this they use software and open source (very commonly they even design programs to manipulate additive technology, such as 3D printing) but above all they are technological makers who start from industrial tools. Furthermore, what they do they don't do it alone (in the style of the iconic image of the lonely nineteenth-century inventor) but in a group, in community. They finance their projects through crowdfunding and kickstarting and work in collective Fab Labs. Makers, essentially, are a type of prosumer who *makes for and with others*. Where does this essence come from?

In the midst of the buoyant postwar American economy, the DIY (Do it yourself) movement developed and reached its peak; although, as is obvious, the non-factory and handmade production of objects and artifacts never disappeared in industrial societies. These activities were, in the past, closely related to the supply of basic and utilitarian consumer goods, while the kind of activity that arose from the DIY movement was anchored in the management of leisure –which encouraged to attend to the free time gained in the postwar economy (Spigel, 2013, pp. 34-38)– and developing manual hobbies inherited from pre-industrial work, still fresh at the beginning of the fifties (Gelber, 1999).

Despite the United States has unquestionably remained the nation most deeply rooted in this movement (which range from aeromodelling to the development of complex machinery), the interest in DIY activities expanded, as lifestyle, at least to the most industrialized nations, and it is precisely within this tradition and places that the communities that would be labeled as "makers" arose, largely fostered by the arrival of home technology and mechanical/computer interoperability that allows "extracting" the processes of creation and material intervention, monopolized by the industrial sector, to export and insert them into the domestic environment.

Although the concept of "maker" pre-exists decades within the scope of homebrewing ("homemade" informatics and electronics garage sessions) and the Fab Labs that have invaded California home workshops since the 1970s, it does not take importance as the owned label of a given community until Dale Dougherty published the first issue of *Maker* magazine, in 2005 (Corona, 2018, p. 28), and then globally with the publication of *Makers, the new industrial revolution* (2012), Chris Anderson's seminal work –although he acknowledges an earlier use of the term by science fiction writer Cory Doctorow (Anderson, 2012, p. 31)–.

Regarding this work, and despite the fact that it varies between 340 and 350 pages, depending on the edition and language, the central line of argument about what makers are and what their contexts are is quite delimited:

1) Even though the digital economy in today's world (the 2010s decade) is extremely important as the basis for the advanced economies development, human beings and present societies depend, in the first instance, on the "Real" economy, the economy of atoms and tangible goods. The production and circulation of concrete, tangible goods, although it requires and depends to a significant extent on a powerful and thick chain of processes of disintermediation and virtualization, the production and consumption of concrete goods remains the queen of current modes of production, and is in this scene in which the makers and their "revolution" appear: although they are actors (individuals, communities) that transform the world from the manipulation of knowledge and technologically abstract entities such as software, their commitment is forged and objectified in tangible things: machinery, gadgets and devices that generate goods or material resources. In this position, the maker actions comprises a wide spectrum of activities and situations, but most of them focus on the creation and modification of tangible tools or, rather, on the use of tangible tools in the transformation or modification of specific entities (design, turning, welding or adding of spare parts, structural components, etc.).

2) What has been done so far in the business-industrial context has ignored a whole host of special needs of the technology consumers, such as differences in use related to the immediate context of users and personalization as a central value of design, in addition to fiercely stimulating the market with such unethical practices as programmed obsolescence and irreplaceability of components.

3) Therefore, makers are very central players in this environment of inertia because not only do they challenge this decadent system, but also, in their commitment to "do it yourself, but do it with others" and their search for solutions in non-competitive environments, permanently encourages innovation in their doing.

4) To achieve all of the above, the ideal of the maker community is to maintain face-to-face working groups (in-person co-working) and the development of meetings (makerspaces) and innovation sessions because, rather than virtual, these are essentially face-to-face communities.

Clearly, makers (maker communities) are prosumers and here lies the first major difference with other types of prosumers such as fans (Hills, 2002; Jenkins, 2017; Jenkins et al., 2015) and uncommitted amateurs (Leadbeater & Miller, 2004), but also even pro-ams, for whom the importance of prosumption lies in the construction of communities of reception, learning or practice rather than in the creation of this type of communities to make something tangible in what is co-created or prosumed from them.

This nuance is important because, throughout the development of the concept, the vital thing about this type of prosumers is that they are able to challenge the logic of the industrial market based on the collaborative culture, the innovation arising from collective intelligence and disruption regarding the corporate standards of creation that think "inside the box". As Corona (2018) points out:

> The maker movement refers to the transformation of the process in which technological innovations are developed, by ceasing to be the exclusive domain of large companies and manufacturers. The fundamental principle is that each individual can have access to the tools and technical

possibilities to design, create and manufacture their own products and contents, which implies not only a reconfiguration of the modes of production but also the practical possibilities to access, store and spread knowledge (p. 27).

Another key aspect or common thread is that entrepreneurs, like makers and inventors, have always existed, but never before had it been possible, on this scale, to combine both. In Anderson's words, "the greatest transformation –in the production model– does not lie in things being done but in who does them" (p. 34). The maker revolution is, prior to everything and therefore, an inventive revolution based on the democratization of the tools of material creation and production, and those tools are hardware rather than software, and that make it different, particularly, from another emblematic prosumer movement: the hacker (Himanen, 2009), but that is a separate issue and for a different study.

TO CONCLUDE…

The concepts offered by these authors, as one can easily deduce in a first reading, don't have the interest of coining terms of academic use or conceptual models for research, but, rather, to offer disclosure attitudes regarding different emerging phenomena in the field of technology economics, and this is easy to understand if the authors are contextualized: all three, but especially Leadbeater and Anderson, come from technology outreach journalism and business management, especially from the areas of social entrepreneurship and innovation studies. Leadbeater was an advisor to the British Prime Minister, Tony Blair, during the design of his policy of turning towards a *light industry* or *industry without chimneys*; while Anderson was, for a decade, the famous editor of the Californian cyber-technology cult magazine, *Wired*, publication from which have arisen or that has made popular important neologisms such as *crowdfunding*, *long tail economy*, and, even, Leadbeater's own pro-am term, via Anderson's bestseller, *The Long Tail Economy* (2007, p. 84; London Speaker Bureau, 2020).

Having already identified their respective enunciative *loci*, and with several best sellers and TED talks behind them, it is also possible to

understand that they are very popular and influential authors in the global culture of entrepreneurial innovation of this early century, and that they write (and speak, they give lectures and fill auditoriums throughout the world) mainly for technological entrepreneurs, starters and activators of public policies in relation to the creative and digital economy; being these mainstreams of a central-neoliberal tendency based on the ideas of the entrepreneur as change agent (Miller, 2012) and innovation as an act of creation that is deeply individual, "rebellious" and relatively independent of the macro-structural economic environment from which they arise and in which they operate.

As a result, both pro-ams and makers are, above all, the change agents in a market economy bogged down in the undifferentiated offer of products and services and in a global corporate environment that has given free rein to its own incompetence based on the lack of endogenous creativity of the monopolistic bidders, and, although the educational, political and ethical arguments appear from time to time –key elements in the conceptualizations of also important authors such as Dale Dougherty or Neil Gershenfeld (2007)– the focus is definitely on the entrepreneurial capacity of these actors and their active (transformative) integration into those contexts and markets. This allows, as has already been pointed out, to present them as disruptive actors who assume innovation as a principle of lowering the cost of risk (Von Hippel, 2006, pp. 46-48), which in turn stimulates economic growth with base on creativity and low-cost knowledge (knowledge driven economy) and the much-needed diversification of new models of user, consumer and creator-producer.

Nevertheless, if this shared vision is characterized by bringing a mood of optimism and opportunity (which can be judged as something positive), there's a lot of criticism towards this type of stance, particularly by authors in the line of radical political economies, such as cognitive capitalism, bioeconomy and computer and platform capitalism, stances, the latter ones, that defend, as a common attitude, that entrepreneurship and innovation (and hence much of the prosumerisms) they are nothing more than disguised capitalist mechanisms that allow to maintain new forms of expropriation of social knowledge (the exploitation of the "new" general intellect), the emergence of a new class of exploited

(self-exploited, rather) that is the *cognitariat* (Fumagalli, 2010) and the emergence of countless users who, via the unpaid production of information, content and data, and somewhat unconsciously (such as has been attributed to fans and other forms of prosumers of media content) give rise to a new source of value extraction based on corporate parasitism and to "business models maintained in the exploitation of 'free labour'" (Srnicek, 2018, p. 53). From these stances, current capitalism, as always, would be privatizing any form of native knowledge and engulfing all kinds of knowledge that arose outside its hegemonic orbit, whether it comes from the purest social movements, or protest organizations, or from the small daily actions of opposition "to the system" (Heath & Potter, 2005). Thus, there is no doubt that a central interest of capitalism in the digital age would be placed, precisely, in encouraging prosumer movements and identities rather than deactivating them.

Beyond the problem of the predatory extraction of value of which these prosumers have been target, there is the problem of job degradation, labor precariousness and the prevalence of a supposed biocapitalism of work as a great guide to the debate. As presented by Fumagalli (2010):

> The value creation process is no longer limited to the working day that generates surplus labor, but corresponds to the part of the life span necessary to generate codified knowledge and, therefore, social knowledge (general intellect), which is then expropriated by and in the accumulation process. In cognitive capitalism, the creation of value is the expropriation of what is "common" (p. 275).

Translated to sociological slang, this means that if something produces value outside the historical limits that separate work from the other spheres of everyday life (such as leisure), this erodes the identities of social individuals as free creators and historical workers. This reflection joins, almost in a continuum, what Srnicek (2018) later raises in relation to the displacement and change logics in the modern dynamics of work's valorization, where:

> Knowledge workers or cognitariat is increasingly replacing the traditional industrial working class. Simultaneously, the widespread deindustrialization of high-income economies means that *the product of labor becomes immaterial*: cultural content, affections and services. This includes content from media such as YouTube and blogs as well as broader contributions in the form of websites, participation in online forums and software production (p. 41).

In this mechanical, almost subliminal movement, prosumers become part, without knowing it, of that precarious cognitariat while open creation (for example, software or design licenses) is seized from free circulation circuits (which is valued work, but unpaid) to get running the huge, expensive and intimidating machinery of data extractivism and other entities of value, just as the platforms giant, Facebook, does by integrating open software into its informatics environment (Srnicek, 2018, p. 49).

With all these background elements, it can be said that pro-ams and makers –but also other types of prosumers such as fans, amateurs and some others such as those brought together by the misfit economy presented by Clay and Phillips (2016)– are potential prosumers and prosumer activities that can be easily *hijacked* by the market.

After all, and assuming that every story has two sides, and that the ones reviewed here participate as extreme opponents, we believe that these "recent" concepts help to broaden the descriptive base of the plain model of the prosumer, as they constitute inductive apprehensions of the own experience of a group of authors who, although being outside the academic field and the most classical scientific production, have guided an important part of the dynamics of practical approach in the mainstream of technological entrepreneurship and in the creation and promotion of very popular public and social initiatives –such as those of the creative and digital economy– during this first quarter of the 21st century.

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