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NOW: THE PARTICIPATORY MARKETPLACE FOR A TOURIST DESTINATION

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NOW: THE PARTICIPATORY MARKETPLACE FOR A TOURIST DESTINATION

Complete Research

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Abstract

Framing metamorphosis: In a unique, bottom-up, destination management case - exploiting mobile-internet based communication – operators’ competition is washed out, in favour of shared sense making, cooperation, and coordination. How is it possible? What are the drivers, enablers, and success factors? What makes it sustainable? What produces shared self-awareness in the community, to gain group access to online trade? What magic organisational intervention produces the “miracle”?

Different perspectives: Qualitative analysis interpretation, in a soft, participated, action-case, yields: from a *socio-technical* perspective: local dimension and participation (sustainability of solution, convenience; a working online market; putting the tourist at centre); from a *social* perspective: adapt to various users' situation (location, context, and mood; don't take all, select on quality; cross-marketing partnership); from an *IS discipline* perspective: social-practice-design intervention; mobile-Internet driven business-model and cooperation; APPs and user configurability.

Theory stands: Digging into the conceptual fabrics of the case, unquestionably unveils the embodiment of some anticipated, crisp, phenomenology-based IS concepts, in the social structuration back-bones of human behaviour of *NOW*: i) personal sense making and motivation (situation, context and mood, convenience, sustainability); ii) people participation to technology-based innovation (participatory-design, constructing well functioning socio-technical infrastructures, user-design in use); iii) intervention for consensus-based, organizational change by social-practice-design (facilitation for shared sense making, trust and cooperation building, bottom-up governance).

Keywords: *Destination-Management, Mobile-Internet, Socio-technical-infrastructures, Participatory-Design, Social-Practice-Design, Intervention*

1 Introduction

The web, informatics, is changing nature and impact, again (the previous season of change was reported fifteen years ago: see Ljungberg 1999; and Braa *et al.* 2000). Grave-stone like, static websites, are no longer use: web users want to meet people and have conversations with them. While Wikipedia provides an identical experience at home and on the go, mobile users need, and now get through mobile Internet, geo-referenced and up-to-date information, and reviews, on what is going on around them, then and there. Can we agree, in general on this change? On the emerging importance of real time and local contextual specifications? Of adding a human contribution of improvisation and *bricolage*? Should we interpret these as signs that informatics applications are rapidly evolving in nature? If yes, what are the new, outstanding brush strokes, in this painting?

We address in this paper features of metamorphosis, observed in the field of IS-based tourist services in a destination, promoted by intrusion, albeit useful, and pervasiveness, of digital technologies. Can we provide data supporting these views, on informatics changing nature? What we observe is:

Changes/ metamorphosis in the nature of sense making process about product and services arising from digital intrusions: Availability of an updated list of reviewed things for me to do here and now. Suppliers react in cooperation to requests, put together, adapt, and personalize in real time their offer.

Changes/ metamorphosis in the experience of products/service production and delivery: Tourists grab the local market in their hands, with resources at hand for service selection and shop. Service producer afford the publication, to walking-by client's smart phones, of fixed-n copies of a discount voucher.

Changes/ metamorphosis in the nature of producer-consumer relationships: Quality and availability are guaranteed: cooperation of producers allows satisfying adaptively, in real time service requests.

Changes/ metamorphosis in organization: Upsurge of an aggregated, organised operators community.

Changes/ metamorphosis in source of revenue: Operators have an opportunity to dis-intermediate online travel agencies; and, they can pay a membership fee, rather than a transaction percentage.

Changes/ metamorphosis in managing social and political relationships: A rare example of bottom up, rather than usual top down, destination management; completely successful, and self-sustainable.

To dig onto these questions, the central theme of this paper integrates technology, organisation, and intervention aspects: how ubiquitous, real time digital communication prompts socio-economic metamorphosis in tourist destination services, in-acted, in a recent case, by participator(il)y designed, facilitated, organisational aggregation and change, in the community of operators of a destination. For this, we investigate the sense of a presently on-going creation and adoption experiment, of a work oriented, socio-technical infrastructure in tourism. We shall see how long, and acutely for-seen, visionary, theoretical concepts, are finally with us, for real. A multifaceted subject matter: conceptual frames for analysing IS metamorphosis, socio-technical infrastructure, and social change and participation. Thorough treatment will require a multi-view approach. We take up a recent case, in which we are also involved as designers and facilitators, and apply qualitative case-study analysis; using a concrete-abstraction method on conceptual data, interpreting and putting results in different perspectives, while looking for eventual backing of theories.

Section 2 presents the *NOW* case *framing and method*: Section 2.1 - The nature of the case, Section 2.2 - Multi-view qualitative analysis, using abstraction by clustering. Section 3 presents interpretation results parsed into different *perspectives*: Section 3.1 - Socio-technical impact, Section 3.2 - Social impact, Section 3.3 - Impact on the IS discipline. Section 3.4 – Synthesizing interpretation results. Section 4 confronts interpretation results of the *NOW* case with IS theory: Section 4.1 - Reshuffling

interpretation results to highlight contact with theory, Section 4.2 - Theory *agnition* on the *NOW* interpretation concepts. Discussion and conclusions follow, in Section 5.

2 Working with the *NOW* case: nature and research method

2.1 Nature of the case

In this summer season, in a prime European tourist destination, Garda Trentino, an online tourist marketplace (Martini *et al.* 2000) is operating, dedicated to participating tourist services, about half of their total number. With an organizational intervention on the territory, together with the local tourism promotion agency, InGarda, and the active involvement of several hundred operators of the tourist destination, a small local company, eTour srl, has developed *NOW*, an innovative socio-technical infrastructure for the sale of local tourist services. Developed using a combination of participatory approach and special activities of social facilitation: of cultural innovation, of promotion of cooperation, of sense making of what is to be done together.

In short, *NOW* is the platform of the online shop of the territory (Prandi 2014 a, b). How did it start? In the summer of 2012 a group of hoteliers, has designed and launched the Daily News, the newsletter of the morning guests: a capillary information system that aggregates the information on the Internet about the offer on the land, and produces a hard-copy, one page front-back magazine to be given to the guest at the breakfast table. Always different, with valuable content because specific to the territory and to the context, verified and accurate because taken from authoritative sites, customizable for each facility and also by the operators themselves. The content is fed, in three main European languages, by the local tourism promotion agency, and it includes the content they normally prepare for their website. Daily News are produced automatically, customized with the logo of the accommodation, different every day. The content changes according to the location where the hotel, B&B, farm, etc., is located; and depending on the weather: if it rains, it offers visiting a museum, if the weather is nice, it suggests a walk, a park, or an excursion in the mountains. Today there are more than 100 members and structures in the initiative, almost a million tourists have received it in a year. The results are so interesting that other territories have adopted it.

But it went further, right now, *NOW* - the Internet global store - is ready with all the offers of the territory. It makes available to participating local exhibitors, a personalized space to showcase and sell their products and services, the ability to post offers and events and promote them through cross-marketing. It is the first multi-device platform for the integrated info/promo/marketing of the tourism of a destination. Open to operators of both the receptive and extra receptive sectors, it is accessible from any Internet-connected device: smartphones, tablets, desktops, smart TV. The guest can book a service or purchase a product; and download digital coupons, the most relevant e-commerce strategy of the moment.

Content is managed to ensure proper visibility to all advertisers: display, location parameters, time of search, browsing history of the user, as well as the actual availability of products and services, and cross-marketing with related products. It is a two-step process: optimization of the communication with the guest, incrementing the perception of quality and quantity of services available in/out; and the linking of supply and demand, in an active and dynamic way, creating an outstanding vacation experience. The operators themselves are the ones that have designed it, and that are launching it. They are obviously the real product of the innovation. The basis is the collection and the effective communication to the guest tourist, of the offer of local extra-receptive services, and all the elements that enrich the experience of the tourist. The result is an agile and immediate instrument, having all the

preconditions to significantly alter the mode of proposal, selection, and execution of vacation experiences in the tourist destination.

It manifests itself to the public as an info-promo-commercial, multi-device platform, accessible from any device – especially mobile - connected to the Internet. But in fact, it finds its essence in an eco system, where live and thrive a multiplicity of actors, who freely decide of doing different business together, while sharing identical principles, and identical organizational, behavioral, relational and commercial rules. This step represents the acme of the project, the most ambitious and difficult to achieve, namely the wholehearted and aware adhesion of the operators to a "common good", to the continued search for a sense of "staying together" in the new market space, that is just opening up, and to the continued commitment to fielding the best energies, intelligence and motivation, to improve and extend it in perspective.

From the point of view of technology and organization, there are no limits to the types of services and products to be collected and documented in the integrated system of offer to the tourist, but the real challenge is to gain, from the myriad of suppliers in the area, sometimes even in competition with one another, a willingness to work as a team, getting their availability to exhibit in a common place the essential elements allowing guests to know, choose and buy: that is, descriptions, prices, purchase methods, and the availability of their services and products for sale.

The key points of the market place of the destination (communicative, promotion, and distribution potential - integration of printed materials and electronic devices - mobile solutions for use "on the go" - weekly schedule of activities, for a plurality of declinable thematic contexts, used as "radar" of what is present in the territory in terms of offer to tourists - back-end operation to customize content and images, and enhance collaborative relationships with partners - opportunities offered by voucher and cross marketing, to guide consumer choices), are the natural evolution of the Daily News, as a litmus test of the kind of reception transmitted to the guests, and are the subject of repeated and thorough stress by promoting organizations, in order to ensure comprehensive, effective and successful dissemination and applicability.

The project of an integrated tourism and territory minded infrastructure highlights the great responsibility of each actor called into question (directly or indirectly interested in the tourism phenomenon) to move within its competences, in order to bring about form, substance and dynamism of a scenario, in which:

- Tourists, hikers, residents, potential users of the services, can quickly gain awareness and habit to a new method of info-promotion-marketing to meet their own needs and desires, the instant in which they occur
- The tourism promotion agency, in its leadership role, is able to assume organizational structures and operating dynamics to better govern the supply chains of services, that make up the local tourist offer
- Suppliers of ancillary services, real pivot of the whole architecture, are able to take advantage of this exceptional opportunity for economic growth and development of the company, by going to change their organizational, and market access, paradigms
- Receptive operators and other intermediaries, are able to join hands with the guests and accompany them in the planning of their tourism experience in the area, by offering information, current and targeted tools and practices of ever better quality and accuracy
- Public institutions, not merely give their patronage to the initiative, be capable of making a difference, by encouraging spreading and impact of the infrastructure, by making it visible in

the main relevant social gathering places, and also via the diffusion of WIFI, and the placement of interactive displays on the territory.

2.2 Multi-view qualitative analysis, using concrete abstraction by clustering

This work is a special kind of IS research, soft (interpretivist) case study (Walsham 1993), using the particular action-case method approach, supported in the framework of in-context IS research (Braa and Vidgen 2000). The action case method is, in general, a hybrid of interpretation and intervention. The intervention part of our action case consists in a participatory kind of action research (White 1991; Baskerville and Myers 2004), in which some of the people of the community being studied participate actively with the professional researchers. Our participatory action research is in fact doubly participatory, just to be clear, as the professional researchers involved in the research also perform in the process as consultants - the present authors having played the role of social and technical facilitators in the project -; while properly managing their action research approach, at variance w.r.t. pure consultants, with the declaration of their framework of ideas and methodology (Checkland 1991).

Interpretation in this case-study, has been carried out through conceptual, qualitative analysis of a wealth of elementary data gathered in the history of the case. Data consisting in observations extracted from: a) documents, including texts of project proposals and accounts produced in various occasions; and, b) views of agents on project activities and results, and their significance; views directly available from perception and memory, collected through recount stories and interviews.

The data extraction process is at the heart of the interpretation of the case. It relies on personal knowledge-based sense-reading in situation – Polanyi describes it essentially as the human tacit ability of assigning meaning to details in a picture around a focus (referenced in: Walsham 2004) -. It is pure hermeneutics, of course; for the bad – it is agent-dependent –, and for the good – it captures what matters to people, as data consisting of a wealth of elemental observations, in form of structured ideas.

Analysis and interpretation proceed in two phases. In the first phase, elementary observations are re-written on separate post-it, for convenience of placing and displacing them on a table surface, continuously arranged and rearranged in successive attempts of putting any two of them close to one another, when perceived conceptually close, to eventually form groups of items having something in common; a process named concrete abstraction, as it produces, by displacing material objects, an abstract unifying concept - and title - for each group; process stops when no attempted step appears to ameliorate, for any post-it and its neighbours, the relation: meaning proximity → location proximity.

In this way, the qualitative analysis method employed proceeds by applying, to the large set of ideas, the merger process of conceptual clustering (see data treatment methods for IS design, e.g., in: Beyer and Holtzblatt 1998), producing a couple of dozens of meaningful abstraction synthesis, one for each ensuing group of data. Followed by interpretation and additional sense making of the outcome, in terms of assignment to the groups, of some content appropriate “titles”, or keywords; that are common terms in professional practice: like *approach, outcome, driver, enabler, success factor, design concept*.

This analysis step produces concepts, but it is not enough as interpretation. To proceed we consider two alternative roads: on the one end, we can take one of different perspectives on the case and collect meaningful items in that perspective: “Multi-perspective reflection, the concurrent or alternating use of several perspectives in the consideration of phenomena ... (is) essential in informatics ...” writes Nygaard, in his foreword to (Ciborra 2002). On the other hand, we wish to make contact with theory work, and this needs some preparation, by some more clustering, for clarity / efficacy . Let’s do both.

In the second phase, the resulting group of decorated concepts is parsed in two complementary, independent ways: either it is divided in three sub groups, by proximity to three given concepts; or it is the object of further clustering, in the usual ‘material abstraction’ way. Here is how:

- By parsing it, according to the relevance of each member concept for one of different multi-view perspectives (Avison *et al.* 1998), out of a practice-based, arbitrarily chosen, pre-defined set of three (*social, socio-technical, design and intervention*): i.e., different IS views,
- By parsing it with replica of the conceptual clustering procedure, to extract titles and pair them *a posteriori* with ‘present-at-hand’, pertinent concepts from IS theory; for promoting *agnition* (Eco 1978), recognize and acknowledge the occurrence of specific theory concepts, *rara avis*.

This is the framework of ideas and methodology, for our participatory, action-case method based, soft-case study, of in-context IS research. The process has little awareness of its final docking. Section 3.

3 Interpretation results, from different perspectives

3.1 The perspective of *Socio-technical impact: adoption success factors, drivers, enablers, design concepts, and sustainability*

Result synthesizing, title keywords, in perspective of this subsection: *local dimension and participation; confrontation with actors; self-sustainability of solution; convenience; NOW is the market; NOW works; mobile Internet and smart phones put the tourist at the centre.*

- Three concepts only, are central to NOW advent / adoption, and constitute its success factors.
 - Participation and the local dimension. Participation was the key to success of the project.

The local dimension characterizes NOW: a global firm like AMAZON could not do what NOW does, even using local ICTs: NOW selects on quality, and does not take all, only some. NOW is a community based on quality; exclusivity is intentionally used for success, a cross-marketing mechanism strengthening or weakening all, depending on quality; “small”, limited, is key to success. NOW cannot be imposed from above, only locally developed with a genuinely participatory approach, Participatory Design. It can expand geographically only by N replica of the intervention.

- NOW came out of direct confrontation with the actors in the field

“I must give NOW information for my guests, as time goes by, and I feed it of things close by them.” An empty niche of service offer: there is no destination response to information needs expressed in this way.

- The solution's ability to sustain itself locally (revenue vs. expenditure)

A critical mass of 100 operators of the receptive plus 100 operators of the extra receptive sectors, who decide to invest € 300 per year to stay in the system, is enough for NOW: with that revenue they can create and operate the infrastructure, producing an induced extra business to draw sustenance resources.

What else should be considered as intrinsic to NOW? What are its drivers, enablers, design concepts?

- The chromosome of convenience is its main driver

One story is to provide a technology, another one is to provide a situation in which people work better: two completely different stories. For the second one, people must be prepared, technologies must be prepared, the two must be tied together, and work. NOW is the product of a working group that has developed along the way (with participatory design) the awareness of what their work can become; and have decided together what to do. This decision (“*it behooves us to do so*”) does not “*click*” with sole presentations. NOW is the result of the ability to create a cogent convenience for each operator who will use it. The chromosome convenience –“*I agree*”- implies that convenience must be built.

Without the Daily News on the guest breakfast table in the morning, to hundreds thousands tourists, NOW would not be convenient to the extra receptive operators. The Daily News would not be there, were it not for the hotelier convenience of seeing guests coming out happy of the hotel in the morning, and return even more pleased in the evening: no happy guests, no Daily News convenience for the hotelier. Operators' convenience comes via a learning process. The "design-time" for the infrastructure, here, is the convenience time-of-learning of the operators, the ones to feed NOW.

So, there are three levels of convenience: first, the Daily News convenience of hoteliers; second, the NOW convenience of the extra receptive operators – requiring the Daily News -; third, the NOW convenience of the tourism promotion agency, which governs - and with NOW uses better - its resources. A real convenience, this last one: the one coming out of sense making from NOW log-files, on tourist use of the destination. Everything leaves a trace in NOW: products over-required or under-required; effectiveness of proposed pairing of products. Again a matter of learning: things not yet available, that never have been: new raw data, new possibilities.

Creating convenience for those who matter, is helped by "materialization" of what's online in different ways, another asset of NOW: the Daily News on paper, posters, QR-codes to be distributed in the environment, totem supports. Permission for materialization and public display of materials, must be obtained, by demonstrating their convenience to those who give permission – municipality, hoteliers -: another convenience that must be won.

- The socio-technical infrastructure of NOW is the market: this is its economic enabler

NOW is a solution for marketing tourism in a territory; made up of operators, technologies, and resources; including rules of conduct to participate, and qualifying training activity to promote and sell better.

- The technology of NOW, is the one useful for its fruition: this is its technological enabler

NOW is an infrastructure consisting of a hardware allowing it to be used through Internet, and a software ensuring its usability, both for operators and for tourists: a fruition supported in the area according to time, strategies and tactics of work, of the possible combinations between elements of the offer, and of guest choices, moment by moment.

- Its main design concept: Tourist at the centre, empowered by mobile Internet / smart phones

To NOW, Mobile Internet is of central importance: the mobile device - smart phone, tablet - is a sophisticated one, allows working well here and now. And a complex one, soon a payment means. It is the most popular device, apt for enabling adoption by people. Front-office and back-office elements:

- Front-office: specific for mobile, based on HTML5. Strong features:
 - It allows smooth user experience (APP type), no need for continuous page loading
 - HTML5 along with JavaScript can be executed by the browser (client side, not server)
 - Apt for devices to interact with sensors and telecom equipment (GPS, compass, gyro) etc.
- Back-office: also developed with HTML5 technology. Exhibiting:
 - A simple GUI, minimal, clean, to allow operators to easily upload products and services
 - It offers interoperability technologies (API + web services) to own platforms.

3.2 The perspective of Social impact

Result synthesizing, title keywords, in perspective of the present subsection: *adapt to users' situation → present location, context, and mood; build community of operators → online market; bottom up destination management; not all, selection based on quality; supplier coordination; group access to optimal service-personalisation; partnership for cross-marketing; group access to online trade.*

From a social point of view, IS are “language”, people communicate through them (Goldkuhl and Lyytinen 1982, Winograd and Flores 1986, Jacucci *et al.* 2005). As for language, semantics and pragmatics are involved here, of course. Furthermore, as IS are used for human communication, and communication is both content and relationship (Bion 1961), content and relationship aspects are involved. Finally, IS design accounts for user expectation by Language Action Perspective (Sjöström and Ågerfalk 2004) and the triad: *representation, interpretation, action*. In this section we expose the strong social influence, of the communication infrastructure on people (the infrastructure helping to organise people to function as a group), and *vice versa* (the people allowing the infrastructure to change nature, meaning, and social relevance, of the communication it may support).

Section 3.1 described socio-technical features of NOW favouring its adoption. Here we interpret the nature of the NOW tourism infrastructure, from an *IS metamorphosis perspective*, to expose change fostered by the *virulent rise* of people real concern related concepts, like *situation, context* and *mood*.

NOW exhibits metamorphosis of customer-supplier and supplier-supplier *communication (content and relationship)*, originated by the conjunction of two events:

- The introduction of a new type of interaction, based on mobile Internet / smart devices
- The change in character of one of the social actors involved, the very base of commerce operators, with the emergence among them of an organised socio-economic community, performing new social practices to coordinate, and effectively offer and deliver appropriate, higher quality, certified, ever available products and services; as the result of an organizational intervention, participatory in nature, for promoting / facilitating a community building event.

These event are not independent: community building happens with the advent of mobile Internet. The advent of mobile Internet, and of widely distributed mobile smart devices, brings about change in customer-supplier and supplier-supplier *interactions*. From e-mail correspondence between tour operators and customers, or between tour operators - with availability and timing of desk work interaction and reaction -, to ubiquitous, real time response messages to all. Service functionalities of GPS geo-referencing are now available to users, as they interact with others. With access to multiplicity of APPs available on device, for most varied functionalities. What are the main consequences on human communication opportunities in NOW, related to these changes in interaction characteristics?

On both the tourist and operator sides, from a content point of view:

- Change in the characteristics of information: from time static, and independent of user location (like Wikipedia’s info) to constantly updated on what the world is doing now, dynamically localized / adapted to mobile users' present situation: location, context, mood.

Comment: The availability of a list of things for me to do here and now, augmented by the prompt indication of any available related service to go with it, respecting my wish and preference list; the offer of instant help in finding location of desired activities, as nearby as I wish, along with immediate directions to reach them by various means of transportation; these are elements of metamorphosis of the process of sense making in being a tourist, arising from digital intrusion. Being a tourist service producer is similarly impacted, by the opportunity of publication, to nearby-passing-client’s mobile smart phones, of say ten copies of an attractive discount voucher; or by instant coordination with a partner operator, offering the tourist related and desired complementary services.

On the tourist side, from a relation point of view:

- Change in the customer-supplier relation, in new social community practices of the operators of the destination, related to concurrent supplier-supplier interactions, to ameliorate service provision by supply side coordination, again respecting situation: location, context, and mood

- Now tourists enter an online communicative relationships with an organised, responsible "local market", rather than with individual operators minding its own business, or with normally "neutral", local tourism promoting institutions (non-judgmental, irresponsible)

Comment: Tourists grab the local market in their hands; they are put at the very centre by the socio-technical infrastructure, provided with resources at hand to function effectively for good / service selection and decision, and opportunity capture. Participating suppliers are connected into a single organism, and react together in real time to put together, adapt, and personalize their offer to clients.

On the operator side, change of communicative relation (mobile) among suppliers brings about:

- The organization into an "online local market" of the myriad of suppliers in the destination
- If properly encouraged and facilitated as a group, they now organize themselves bottom up into a community, on the basis of individual commitment to joint co-operation, access and control of high standards of quality products and services, of related processes of trade /supply

Comment: A rare example of bottom up destination management, rather than top down, enabled by digital intrusion and in-acted by participation and self-governance of the community of operators.

- Thus effectively in-acting the people side of a socio technical infrastructure for the interaction with tourists, to dynamically manage and offer customized and optimally aggregated supply
- The ensuing online "local market" is self-organized and self controlled, made up of shops jointly selected according to quality standards, and spontaneously aggregated in groups cooperating towards mutual success, for the best experience of visiting tourists
- Thanks to dynamic and updated management of quality supply, they now manage to promptly respond to incoming requests from their clients, according to, and respecting, both the clients' and their own, present situation, location, context, and mood
- Together, they are now able to supply customer personalized goods and services; through the activation of partnerships for the joint provision of complementary services; enforcing by collective responsibility actual availability of requested services.
- Together they may access group-acquisition advantages: thanks to the size of the destination market, they have now available an opportunity to dis-intermediating OTAs (Online Tourist Agencies); opening the way - individually precluded otherwise - to direct online marketing, by online visibility to individual tourist through their "local market" destination infrastructure.

3.3 The perspective of *Impact on the IS discipline*

Result synthesizing, title keywords, in perspective of this subsection: *Internet driven change of business model; mobile internet promoted spirit of cooperation; Social Practice Design intervention; focus on social aspects; APPS and end user design in use; IS driven direct access to online market.*

With respect to the significance of NOW, in the perspective of its impact on IS, we ask how NOW progresses IS use for digital tourism, how it brings forward IS role in this playground. Response:

With respect to the impact of technology on society and its economic organization:

- Mobile Internet has produced a substantial change of business model in the industry, a change the world had been waiting for in vain, since the beginning of Internet (Franch *et al.* 2006)
- This happens precisely for the creation of conditions for the of realisation of a true spirit of cooperation among providers (support of an innovative socio-technical infrastructure based on mobile internet for its operation), a spirit that failed so far (Franch *et al.* 2006), and of the opportunity of its emergence (an appropriate organizational intervention for its realization)

With respect to the problems of innovation management, and of socio-technical uptake intervention:

- Demonstrating the key role, specifically of a Social Practice Design based organizational intervention - beyond the need for the participatory design approach, - to achieve coordination of operators in the promotion of local community building; and facilitation / counselling to achieve the new social practices that make it work (see Section 4)

With respect to the advancement of theory in the IS field:

- The significance of the shift in focus on social aspects, in the observed metamorphosis

With respect to participatory design of technology:

- the availability of access to the user - through a simple click on icons and pieces of text appropriately highlighted - activation of diverse functionality of the mobile device , referring
- The multiplicity APPs, of the most diverse features, available on devices today, realises for the first time in the history of information systems, the possibility of adapting with a simple click the functionality of the instrument to the emergent use desired by the user, fulfilling the twenty years dream of user configurability in use, by literally putting in the hands of users, e.g., geo-reference GPS services, central to the effective use of mobile Internet

Finally, with respect to the economic impact on business models:

- NOW dangles the cogent commercial benefit for all operators, of an open way towards direct online marketing, otherwise precluded, through the direct online visibility in Internet, of the destination to individual tourists, overcoming the lack of visibility of each individual operator.

3.4 Synthesizing interpretation results in the different perspectives chosen

The outcome of the qualitative analysis of the NOW case, described so far in this Section 3, are rich and meaningful. We have presented them as a short list of interpretation results, in each one of three different subsections, for different analytical IS “perspectives”. We have synthesized the content of the various points, using title keywords. For simplicity of later reference, we further condense the points into three or four basic concepts, for each one of the three different perspectives:

Socio-technical impact: *Adoption success factors, drivers, enablers, design concepts and sustainability:*

- Local dimension and participation; self-sustainability of solution; convenience; NOW is the market, it works; mobile Internet and smart phones put the tourist at the centre.

Social impact: *Build community of operators → online market, group access to online trade:*

- Adapt to users' situation → location, context, and mood; not all, selection based on quality; partnership for cross-marketing

Impact on the IS discipline: *Organisational intervention:*

- The IS discipline: mobile internet driven change of business model, promoted spirit of cooperation; Social Practice Design intervention; APPs and user design in use.

4 IS theory confronts interpretation results of the NOW case

4.1 Reshuffling interpretation results to highlight contact with theory

Each statement in Section 3 refers in itself to a complex “story”, of the realm *people, computers, and work*. It relates preferentially to one of the “facets”, of a multi-faceted view of IS (unknown IS facets, *a priori* unrelated to the perspectives used in the classification). Let us investigate the nature of the

“facets”, with our conceptual clustering machinery. We apply the concrete-abstraction method of section 2.2, to the set of all keyword-denoted interpretation results of Section 3. We come out with three clearly separate, identified groups. Data used is listed in Section 3, result verifiable by readers.

Here are the three “titles” by the abstraction process, denoting the meaning of ‘membership’ of elements to each group (some more title words included in parenthesis), denoting relevant “facets”:

- Facet 1: Personal sense making and motivation (individual situation, context and mood, personal thrust towards own goals, sustainability)
- Facet 2: People participation to technology based innovation (participatory design, constructing well functioning socio-technical infrastructures, user design in use)
- Facet 3: Intervention for consensus based organizational change (shared sense making, facilitation for consensus and trust building, bottom up governance).

Are these good candidates for IS “facet” titles? Yes, albeit in the first and third ones there is no mention of IS. They have come up, in a rigorous qualitative treatment, as key interpretation concepts in an IS case; so they must be good IS facets! We will use them to make contact to theory, in the next sub-section. For this, we shall make an intentional comparison call to our own, personal memory of “ready at hand” theory concepts in the field, in order to promote *agnition* - as anticipated in 2.2.

4.2 Theory *agnition*, activated by hints in the NOW case interpretation

Here is theoretical IS work that makes best contact with the issues synthesized in sub-section 4.1:

Facet 1: *Personal sense making and motivation (individual situation, context and mood, personal thrust towards own goals, sustainability)*: see the work of Claudio Ciborra on “human existence in everyday life” and on “situated-ness” (2002, 2004), and of Sara Eriksén also on “situated-ness” (1998, 2002, 2003; Ciborra 2004). Here a brief quote from Claudio Ciborra’s “Labyrinth of information”:

“The essays...attempt to engage the reader in thinking and articulating his or her practice otherwise ... (than) ...current descriptions of the design, implementation, management, and use of information technology in organizations ...largely founded in notions of rationality, science, and method. ... they point to an alternative centre of gravity: human existence in everyday life” (Ciborra 2002 p.1)

“... (Ciborra’s) specific task is to present a philosophical perspective that brings forward a world of IS practice and management based on understanding of lived human experience rather than the abstractions of ideal rational behaviour. He proposes metaphors such as bricolage, improvisation, tinkering, hospitality, and care in order to understand the effect made to accommodate the non-human technology in an element in an organisation’s life ... He opens new scope for IS research to tackle what had been previously dismissed as ‘irrational’ by adding ‘moods’, such as panic, boredom, anxiety, and frustration, to the cognitive notions ...” (Avgerou et al. 2004, p.7)

Facet 2: *People participation to technology based innovation (participatory design, constructing well functioning socio-technical infrastructures, user design in use)*: see the work on Participatory Design (PD) (Nygaard 1982), (Bodker, Kensing, and Simonsen 2004), and on User design in use (Jacucci et al. 2002). Here is an illuminating quote (Nygaard, foreword, in Ciborra 2002), on motivations for PD:

“... the properties of complex information systems are rarely independent of the processes by which it has been produced. The method used in such systems development processes always embed social perspectives on values; on the power structure of the organisation carrying out the process; on how to treat conflicts; and so on. These perspectives are usually not made explicit; probably it has never occurred, to those who designed the methods, that they ought to do so. The most common deficiency of system development methods is that they fail to identify the actors and other persons or groups who

have vested interest in the system and in its development process. In a societal situation, such notions as values, interests, power are unavoidable elements. Knowledge based systems will be designed, and later manipulated by opposing actors, as tools to achieve contested goals, regardless of the stated and/or intended purpose of these systems.”

Facet 3: Intervention for consensus based organizational change (shared sense making, facilitation for consensus and trust building, bottom up governance): work on organisational intervention roots back to Kirsten Nygaard at Oslo (1975) with the Utopia program, to Enid Mumford at the Tavistock Institute with the Ethics program (Mumford and Weir 1979) and then to Peter Checkland at Lancaster, with the Soft systems methodology (Checkland 1984).

This type of work has progressed in the last decade, to entirely new understanding and effectiveness (Martin and Jacucci 2008): with the work of Mike Martin at Newcastle, England, on Intervention (Martin *et al.* 2007); and of Gianni Jacucci at Trento, Italy, on Social Practice Design (Jacucci 2007; Cattani and Jacucci 2007; Jacucci *et al.* 2007), leveraging on facilitation of shared sense making; individual and organisational counselling (Rogers 1951; Cattani *et al.* 2008); straining management towards bottom up governance. A quote on in-acting consensus based organisational change:

“... a style of intervention which we have claimed takes a step further than what is usually conceived of as participative design. This is not based on a reallocation of rights and capabilities between architect/designers and client/users in what are still linear or iterative but two sided design processes. Such reallocations still leave the definition of the objectives and the contexts of development as preconditions of design and assume that the architectural language and conceptual framework in which the problem and the solution can be articulated are available to the participants. In circumstances where these assumptions cannot be safely made, there is a need for an intervention which has the purpose of addressing this lack...” (Martin and Jacucci 2008)

5 Discussion and conclusions

Our intervention for development and adoption of the new infrastructure has been successful for the NOW community. Satisfaction of the “client” is indeed the first, *practical* parameter, to determine a positive outcome of an action research project (Baskerville and Myers 2004). The second, *theoretical* one, is the significance of the results of our soft case study for the IS discipline. Here they are:

First result, a key theory learning for the IS discipline: Human, social issues now prevail in IS practice, and theory. Is this a surprise? *“...information systems (are) at the heart of social sciences ... (while) the study of information systems in their social and organisational context remains at the heart of the discipline of informatics”*: again Kirsten Nygaard points at this fundamental connection, underlined by many others (e.g.: Ehn 1988; Ciborra 2000, 2002, 2004; Dourish 2001; Avgerou *et al.* 2004).

In fact, *situation, context, and mood*, are peak qualifiers of human experience and sense making, according to (Ciborra’s reading of) Heidegger’s phenomenology oriented philosophical stand. In traditional IS, ISD, ISDD, these concepts were far from prevailing. The real time, contextualised communication infrastructure of NOW evidently affords aspects of: *Situation, Context, and Mood*. These very concepts shaped Claudio Ciborra’s work on social studies of IS design (Ciborra 2002 p.1):

“Such a Copernican revolution is accomplished first by unveiling the hidden or dark side of information systems, or, to put it differently, focusing on the obvious, the workaday, and the very well known to any practitioner in the field. These are events, episodes, practices, and related narratives, seldom hosted in neat representation of systems ... activities such as hacking, improvisation, tinkering, applying patches, and cutting corners seem to punctuate ubiquitously the everyday life of systems.”

Originally thought of with IS design in mind, these concepts are applied here today to IS use, as they might be anyway. And, they should be *'a fortiori'*, as users of NOW are designers in use (APPs); and as real time ubiquitous communication brings to the front the *user's human existence in everyday life*.

Second result, key learning for IS practice: Key alignments, emerged, of IS practice with IS theory:

Individual sense making and motivation: NOW is success, it responds to people mood, situation, and context, with user design in use, and new features of human communication enabled by mobile internet and smart phones. It flies, driven by convenience of players, and sustainability of solution.

Participatory, socio-technical: NOW delivery of tourism-destination services is in-acted by people, participatory, exploiting design for end user design in use. Participatory Design (PD) is seen to be absolutely essential to the success of development and adoption of a socio-technical infrastructure.

Organisational intervention: Local bootstrapping of bottom-up destination-management is enabled by facilitation interventions. PD is not enough: beyond PD, are: facilitation for the creation of shared sense making within the community on what to do; individual and organisational counselling; straining management towards bottom up governance, all achieved by Social Practice Design.

In cauda venenum! In interventions for enterprise innovation, we claim the need for aware, intentional, design attention and commitment, in *designing the new social practices*, besides IS technicalities.

Before leaving this paragraph on 'Individual sense making and motivation', we wish to bring up an extra contribution, in line with Ciborra's proposal of "...an alternative centre of gravity: human existence in everyday life ...", referenced in section 4.2. We wish to recall here "...a different perspective on knowledge ..." presented by Richard Boland (in Chapter 5 of Avgerou et al. 2004) '... in which he looks at the experience of human beings in an ecology of IT-supported distributed practice that consists of knowledge workers, mediations, knowledge objects, documents, and data repositories. His core arguments is that distributed practice in such ecology is confronted by a tension between the local meaning-making of face-to-face interaction ('local knowledge') and the abstract relations of concepts, calculations, and institutional rules, which he calls 'global knowledge' ... he suggests an approach to study ICT-mediated knowledge work that takes into account the individual's subjectivity and the tension due to the opposition of local versus global knowledge ...' (Avgerou et al. 2004, p.9). We believe that the new, real time, contextual communication enabled by mobile-Internet and implemented in the NOW communication infrastructure, provides tourists and tourist operators precisely of the infrastructural means needed to properly take into account ... *the individual's subjectivity* ..., and to cope with the ...*tension between the local meaning-making of face-to-face interaction and the abstract relations of concepts* ..., continuously occurring in our ... *human existence in everyday life*.

Third result, a key learning on IS methodology: In-context IS research is mandatory, as work oriented digital artefacts make sense only as they are capable of ameliorating work processes; results of this soft (interpretivist) case study, urge key learning: a) *participation is essential in design of the infrastructure*; b) *a special kind of participatory intervention – Social Practice Design - brings success in its adoption*; and, c) *the soft case study using the in-context, action-case method, where the intervention part of the action-case consists in a participatory kind of action research, is a useful kind of IS research. Participation* is here the key to a positive self-consistence between research and action.

Fourth result, indications on a new informatics revolution: The previous one occurred in year 2000; "The second machine age" by Brynjolfsson and McAfee (2014) points to a recent acceleration of change in ICT realisations, just in the last five years. Prominent new features include:

- Enhancing actual relevance to users, of information by adding comments by authoritative sources, and/or real time and local contextual specifications

- Opening the way to improvisation and *bricolage*, by replacing machine optimization, with human-machine cooperation, to include creative human input
- Next features to come, probably are speech interaction, and Google glasses:

“... over the past few years, they started surprising us. Computers started diagnosing diseases, listening and speaking to us, and writing high quality prose... we are living in a time of astonishing progress with digital technologies ... the key building blocks are already in place for digital technologies to be as important and transformational as to society and the economy as the steam engine” (Brynjolfsson McAfee 2014, p. 9). An example of “building blocks”, bearing on NOW: “... a truly useful GPS system needed to know more than where the car was on the road, ... he saw an opportunity ... to turn all smartphones into sensors that upload constantly to the company’s server their location and speed information. As more and more smartphones run the application ... gets a more and more complete sense of how traffic is flowing in a given area. Instead of just a static map of roads, it also has always current updates on traffic conditions ...” (*ibidem*, p.60). GPS functionality for a single user, is augmented with the behaviour of the population of GPS users, to enhance use. Explosion of digital opportunities comes from combining functionalities. NOW will grow, for the relevance of its embodied network of communication interactions in the marketplace. The combination of new functionalities, and the concurrent actualisation of visionary concepts, gives rise to different user experience and impact, as for the web: *the new turn of informatics*.

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