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Abstract. Organizing vision theory has been increasingly used in Information Systems (IS) scholarship to study how IT innovations are adopted, used, and diffused. Although providing comprehensive social cognitive account on the phenomena, organising vision theory is less adequate to explicate how visions emerge. Bringing in scholarship from Science and Technology Studies (STS) together with IS, our examination of a case study involving the organising vision emergence of an ERP digital platform technology unearthed details of its origin and the management. Our findings suggest organising visions originate from repurposing of other structured frameworks. This research contributes to the organising vision theory by providing a more nuanced comprehension of vision's antecedents, which more broadly may help to better understand digital innovation adoption.

Keywords: Organizing Vision, Adoption, Diffusion, Digital Platform, Enterprise System, ERP.

1 Introduction

Information Systems (IS) scholars have a long concern to understand the reasons that drive a wide diffusion of some digital innovations while others fail [1]–[4]. A number of writers have followed the rational-economic perspective [5], paying attention to how organisations assess properties and performance of technologies to understand digital innovation diffusion and its relation to value generation. While predominant in the IS innovation research, the rational-economic perspective is not alone in the field, and other ways to theorise digital innovation diffusion are increasingly gaining relevance. Organising vision is a good exemplar of an alternative explanation [6].

The organising vision theory [7], [8] draws attention to the environment beyond the organisational borders, recognising the work of a wider focal community as consequential to innovation diffusion. The organising vision is a collective sense-making of digital innovations' application and use. It consists of discourses that emerge as 'buzzwords,' terminologies that aim at synthetizing digital innovations that acquire a variety of understandings and interpretations when passing through the hands of, among others, technology vendors, prospective customers, consulting firms, and academics. The buzzword ambiguity is seen as the compelling reason that attract actors to find together a common meaning for the organising vision [7].

We find useful the organising vision formulation that sheds light to the wide range of constituencies involved in the shaping of the market and the consequent interpretive flexibility that usually surrounds emerging digital innovations. However, the way the origin of organising visions is formulated seems less adequate. Pollock and Williams [9] pointed out the diminishing ambiguity around technology terminologies due to a better establishment of institutional frameworks that currently surround them (e.g., [10]–[12]). Therefore, if not compelled by the ambiguity of buzzwords, how do organising visions emerge? How are they performed? A deeper investigation on the antecedents of organising visions is required [6], and this chapter develops toward this call.

Vendors are particularly relevant actors in the organising vision construction as major contributors [6] creating terminologies [11], providing subsidies to the collective interpretation and legitimation of digital innovations [13], and mobilising resources to create and promote new digital technologies [7]. In search for the organising visions' antecedents, we draw on a study of the emergence of an organising vision of a large enterprise resource planning (ERP) digital platform. Bringing in scholarship from Science and Technology Studies (STS) together with IS, our examination of semi-structured interviews and a rich archive of interviews, webinars, public presentations, and a varied sort of documents shows that organising visions are born within platform leaders' organisations. We posit organising visions originate from repurposing other structured frameworks and grow as 'in-house' organising visions that are performed by platform leaders' internal community before going public.

Our study contributes to the organising vision theory [7], [8] by giving socio-material and geographical accounts of organising vision genesis, advancing our underdeveloped knowledge of organising visions' antecedents and emergence [6]. Moreover, as most diffusion studies in IS literature can be classified as adopter studies [14, p. 309], we hope our research would also contribute to digital innovation diffusion literature, depicting the prelude of innovation adoption.

2 Organising visions: making sense of organisational futures

Digital innovation diffusion is of great interest in the IS scholarship [1]–[4], [14], [15]. Scholars seek to understand why and how some innovations are widely adopted while others do not succeed. The literature has largely advanced under a rational-economic 'paradigm' [5], assuming "the properties and performance of technologies can be assessed in technical or financial terms, and their selection and implementation can therefore be guided to optimise economic and business outcomes" [16, p. 56]. Under this perspective, rationally assessed effectiveness and efficiency determine which digital innovations will eventually diffuse [2], [17]. Although this literature has sharpened our understanding of how potential users can effectively evaluate and assimilate digital innovations, the focus has been restricted to the inherent technological value of digital innovation and the characteristics of these prospective customers [3]. Moreover, this literature does not appropriately account for the social processes that are intrinsic to innovation diffusion [16], [18].

Our focus is on the notion of organising vision as it is a native IS theory [6], offering perhaps "the most comprehensive account of this phenomenon in the IT application sector" [9]. There is a lot of work for organisations to make sense of a digital innovation in relation to their own reality, history, needs and capabilities. It is not the work of a single actor but rather a result of communal processes [7] – through socialisation, interaction and negotiation – that develop over time [8]. Swanson and Ramiller [7, p. 460] called these processes collectively as organising vision, defined as "a focal community idea for the application of information technology in organizations." Broader business concerns related to planning, decision-making, and action are the core ingredients for organisations to start forming visions – expectations about their future in which perceived uncertainty can be possibly remedied by some kind of innovation.

Swanson and Ramiller [7] explained the dynamic of organising visions. For instance, from a certain core technology such as a new entrepreneurial product or a novel experiment-in-practice, sketchy discourses are created in an initial attempt to frame that core technology as a response to a business problematic. These discourses are enveloped by a label, which serves as hoisted standard, eventually turning into a 'buzzword' [7], [19] – i.e., a label that causes confusion – as soon as it is promoted, for example, at conferences, trade expositions, and sales presentations. An organising vision comes into being when the community rallies around its buzzword in interpretative communication, followed by legitimation and further by mobilisation. In other words, buzzwords spark the emergence of organising visions. Although illuminating, the formulation of organising visions' seems less appropriate. It is argued there is a diminishing ambiguity around technology terminologies [9] due to a better establishment of institutional frameworks surrounding these technologies (e.g., [10]–[12]).

A key aspect of organising vision is it has a 'career' [7], [8], [20], that is, it evolves as the community engages in its shaping, having adopters gaining experience with innovation and refining their understanding of it [9], [13], [21]. Swanson and Ramiller [7, p. 468] posited all organising visions "vary over the course of their careers in their visibility, prominence and influence," rising and falling and drifting along any number of complex paths. Importantly, not all visions are successful. Some may expand to a point to get their boundaries tattered and frayed, losing distinctiveness and fading away (ibid). Others may face competition [3], [7] and fail to triumph. However, there are those that do succeed. ERP is a good example of innovation that has had cycles of diffusion after its visions successfully widespread. In this chapter, we hope to illuminate the antecedents of one exemplar of the emerging ERP organising visions that are still being formed, in which the combination of previous capabilities with emergent technologies such as data analytics, blockchain, internet of things (IoT), artificial intelligence (AI) and machine learning will lead to a different, more intense human-machine relationship.

3 Methodological considerations

A large ERP digital platform vendor with global presence and influential position in its market (ERPCo) was the company selected for our research, credentials that make the

firm a distinctive exemplar of an organising vision development actor [7]. We are looking for organising vision antecedents, an important topic that remains unclear despite all the advancements in the literature [6]. Therefore, we designed this research as a single instrumental case study [22], [23], which is recommended for in-depth investigation when there is a lack of clarity and scant literature [24].

The body of data is composed of 23 semi-structured, digitally recorded interviews (55 minutes in average) involving 24 key actors of 13 different organisations firms (platform leader, complementors, customers, industry analysts, trade associations, consulting, and education) in nine different countries (Brazil, France, Germany, India, Italy, Spain, Switzerland, UK, USA). In addition, we have 34 archival interviews involving 30 respondents from six different firms (platform leader, customers, and industry analysts) in eight different countries (Brazil, Bulgaria, Germany, India, Slovenia, South Africa, UK, USA), and we have attended four video recorded webinars. Moreover, we had access to ERPCo's internal webinars and documents, along with public material from the Internet.

After interview transcriptions, we analysed the data inductively [25] using constant comparison techniques [26]. The analytical process was initiated in the course of data gathering during which we coded the data based on in vivo inputs using NVivo 12 after multiple readings of interview transcriptions, field notes, and documentation. As we gradually proceeded with theoretical sampling [27], we consolidated the sampling adequacy. The recurrent phrases, terms, and labels were clustered and subsequently compared to make sense of the variation within the clusters and to clarify emerging links and interrelations. This allowed us to trim it down into a set of first-order categories that mostly express the similarities in our informants' own explanations of their actions.

The process then followed grounded theory [26] and resulted in a set of second order categories, subcategories, and entries therein. We proceeded with a further comparison among the entries in each category and literature, which allowed us to collapse the categories into induced themes at a more abstract level, such as 'fine-tuning the vision,' 'aligning with business goals,' combating competing visions,' 'creating artefacts,' 'customising artefacts,' 'employing artefacts,' 'managing feedbacks,' 'managing roll-out,' 'mobilising champions,' 'mobilising communication,' 'providing hands-on experience,' and 'transferring knowledge.' These second-order categories showed different practices performed. New comparisons among categories and literature finally gave us the insights onto the whole performance of the organising vision evolvement.

4 Findings

4.1 The vision: Intelligent Enterprise

ERPCo is a company well known for the successful diffusion of its ERP digital platform. This technology is still at the core of platform leader's innovation portfolio, but over the years ERPCo has acquired and developed a large number of other emergent digital innovations to complement its ERP platform, such as data analytics, blockchain, IoT, AI and machine learning. For ERPCo, the exploitation of its technologies by

organisations can lead them to a digital transformation, becoming what the platform leader describes as 'Intelligent Enterprises.' Despite all novelties brought by these emergent technologies, the Intelligent Enterprise vision is not new. We find it instructive to briefly review the history of this term. We thus discuss previous related visions before showing how ERPCo came up with its own.

4.2 Older Intelligent Enterprise visions

The intelligent enterprise term was coined by Quinn [28] in the 1990s. He defined it as "a highly disaggregated, knowledge and service based enterprise concentrated around a core set of knowledge or service skills" [28, p. 373]. Although considering the role of digital technologies as subsidiary – since the concept is managerial rather than technological – Quinn acknowledged the importance of digital technologies in supporting organisations to "handle a much wider array of data, output functions, or customers" [28, p. 25]. Instead of intuition, the understanding of what customers want should be based on data [28, p. 338].

While keeping the same ethos, the term in the further decade was used slightly differently, giving higher importance to machine intelligence. In the 2000s, the Intelligent Enterprise vision was associated with AI, which would give organisations the ability to morph into new forms and create new businesses [29]. Knowledge management was central in its envisioned organisational architecture, surrounded by different technologies that work in tandem, self-regulating and self-optimising them in order to provide adaptation to the short-term, changing business environment.

Later in the 2010s, Intelligent Enterprise became associated with data analytics, presented as the powerhouse for innovation, thus a major source for competitive advantage [30], [31]. In the 'New Intelligent Enterprise,' analytics plays a pivotal role in allowing company-wide continuous improvement and experimentation that eventually leads to innovation, outperforming competitors and serving customers better.

More recently, AI came back to the conversation accompanied by machine learning [32], bringing the idea that these intelligences would not only support organisations' decision making process, but also be a key move towards completing the digital transformation journey.

For ERPCo, Intelligent Enterprise vision indeed encompasses a whole set of emergent digital technologies, as we commented earlier. But according to the company, technology is not where the emphasis should be. While retaining all the technological content found in other Intelligent Enterprise visions produced more recently, ERPCo's vision established its focus explicitly on customer satisfaction that would be achieved through organisational learning and change, based on data. It resonates with the direction given originally by Quinn [28]. It is not clear whether platform leader's vision was specifically based on Quinn's work, but the Global VP Marketing from ERPCo acknowledged possible connections between the two.

4.3 The vision emergence

Intelligent Enterprise is a vision of digital transformation of organisations. It came from platform leader's vision about innovation, developed by strategy and innovation areas. We will start showing how ERPCo's innovation vision was formed, presenting the construction of the Intelligent Enterprise after that.

The roots: innovation vision.
ERPCo has a temporally segmented approach to its innovation vision – it has a time span of 10 years, divided into three sequential time windows, or what the vendor calls 'horizons,' having current and future innovations distributed across them. Horizon 1 has a window time of two years from now; horizon 2 involves the following four years; and horizon 3 has the remaining four years. Horizon 1 encompasses current business issues and respective technologies that are addressing them. Horizon 3 accounts for innovation concepts and prototypes. In between is the horizon 2, which is formed by a forecast (from horizon 1) of incremental innovation needed to fulfil the gaps of current products, along with a 'backcast' from horizon 3 of some of the innovation concepts allocated there – those that are more likely to be adopted in the horizon 2's time frame. The outcome of the horizons exercise is a complex innovation vision, predicting machine and human interplay, having machines as protagonists in some organisational areas and assuming a more supportive role in others. The vision includes an autonomous ERP; an ability to create instant virtual enterprises that can dynamically assemble and disassemble value chains; personal digital assistants helping in decision-making; and processes malleability that allows redefinition of business models and even markets.

ERPCo's innovation vision is quite comprehensive, although very complex. It proved to be very difficult for customers in general to imagine themselves in the vision and how to get there. The vendor, then, converted it into a form hopefully easier to grasp. ERPCo found the composition of words 'intelligent' plus 'enterprise' a tagline that could express adequately in a nutshell what they want to entail in their vision, meaning companies that are able to learn, think, and change to provide better experiences to their customers. Initially involving a small number of executives of vendor's organisation (mainly from strategy, R&D and marketing) in this translation from a product-centric vision to a market-driven vision, it gradually got more participants in its shaping until having the entire organisation engaged. Following we show how ERPCo created an organising vision mobilising the entire company.

Intelligent Enterprise vision, from creation to roll-out.
There are three stages in the development of ERPCo's organising vision. In the beginning, only a handful of people (primarily those that were involved in its conception) are familiar with the vision, which is in an immature format and open for improvements. The vision gets support (and amendments) over time, being consolidated and embraced by the entire organisation before reaching the market.

Step 1: socialise and engage.
The first step is about creating vision awareness in key areas of the organisation. It is made mostly in an unstructured, informal way, in which primarily top executives from customer-facing areas are involved and invited to help in the vision shaping. Although predominantly internal, curiously 'beta customers' – those engaged in programs of early product development – also participate. ERPCo attributes great value to the contributions coming from beta customers not just for the feedback that they can provide to directly improve the vision, but also for the insights gotten from the experiences beta customers had with vendor's emerging technologies. These experiences are monitored and analysed by 'value engineers,' a kind of management consultants within ERPCo's organisation, eventually producing knowledge artefacts (e.g., business cases, reports on financial and operational efficiency) that in this step are fundamental in helping the engagement of 'right people' (the customer-facing executives). These assets will also provide subsidies for supporting the vision in further stages as well. As soon as a number of key people are convinced about the vision potential, the second stage starts.

Step 2: buy-in.
This step is structured and formal. After getting buy-in from the right people in order to crystallise what the vision's message should be, it is assembled a core team composed of delegates from each of the customer-facing areas, responsible for the messages that go out and the development of a core set of assets. These messages – discourses – and core set of assets, such as website content and customer-facing material, are parsimoniously negotiated among the core team members under the coordination of a cross-company marketing unit. This unit acts as the guardian of the vision's consistency, having, for instance, to get everybody to agree on the common set of words to going to a brochure. The coordination is fundamental because the core team is not only giving the vision a corporative shape but it is also creating versions of the vision.

Versioning the vision.
Although claiming their innovations would virtually look after all possible operations a company may have, ERPCo was aware that customers may not use these innovations in the same way. For example, the use of IoT that a railway operator can make (e.g., to understand the maintenance renewal schedule on their trains) can be completely different from how a city council use it (e.g., to better manage traffic routing during peak hours). Due to a number of factors that make one company different from others, such as industry sector it is in, its business model, its organisational culture, just to name a few, customers would probably enact the Intelligent Enterprise vision differently. Sensible to this, vendor's core team created different *versions* of the vision. We examined exemplars of core assets produced by them. We noticed there are several 'The-Intelligent-Enterprise-for…' versions. For example, 'The Intelligent Enterprise for Telecommunications' and 'The Intelligent Enterprise for Professional Services' both describe ideal intelligent organisations as able to serve their customers better while achieving stronger financial results. But each of them enacts the vision distinctively, using the same technology differently and also different sets of technologies.

Step 3: keep alive.
In this stage the vendor mobilises its entire organisation around the Intelligent Enterprise vision and its versions, both internally and towards the market. All areas that have customer-facing responsibilities are called to recast the vision (version) into each one's business-related activities. For instance, the area responsible for business partnerships should create programs and additional assets for helping partners' sales force to sell the set of technologies behind the vision (version), along with certification programs for their technicians to deliver implementation services. The academic partnerships area needs to create programs, curricula and set technology environments to be made available in the campi of academic partners. The analyst relations area has to create assets to be shared with industry analyst firms, and influencer relations has to do the same to share with digital influencers. As each of the areas finalises their productions, they should start to deliver them to the market. These deliveries do not make this stage to an end; the core team's mission of improving and updating the vision and versions is continuous until ERPCo decides to replace its vision.

The Intelligent Enterprise vision is not alone. When it comes to the market it meets many other competing visions [14]. Few are similar, some are complementary, and others are antagonistic. But all are battling to engage the same audiences. We do not know yet whether the Intelligent Enterprise vision will eventually materialise, whether customers will be willing and able to become that kind of organisation the vision proposes, or even whether the vision will thrive on the competition against, for instance, Gartner's 'Composable Enterprise' [33]. The Intelligent Enterprise vision was still rolling out when we finished the data collection.

5 Discussion: How organising visions emerge

Platform leader's organising vision derived from its innovation vision. This vision is a result of a multi-temporal analysis of platform leader's technology in relation to its market, crafted to describe an image of an ideal (customer) organisation that makes the most usage of all current and near-future technologies. However, the innovation vision could not be used as an organising vision as is. In the innovation vision the driving force is technology, which made it difficult for prospective customers to imagine how their organisations would benefit from which technologies out of that complex image. To (potentially) become a successful organising vision, the innovation vision needed to be *repurposed* in a way that any prospective customer would "find it possible to engage in discourse about the organising vision" [7, p. 462]. We use repurpose here similarly to Ribes and Polk's [34] concept where elements of visions (e.g., concepts, definitions) can be reassembled without changing their structure. In this sense, innovation vision's repurposing does not change its technology frameworks, but it rather reassigns vision's orientation from technology-driven to business problematic [7] direction. Moreover, repurposing involved not just the innovation vision but also elements from other visions. Using the concept of vision career [7], [8], [20], we traced back ERPCo's Intelligent Enterprise vision to older ones. Repurposing gathering elements from a management vision (Quinn's [28] Intelligent Enterprise) and from IS visions (the Intelligent

Enterprise based on AI [29] and the New Intelligent Enterprise based on data analytics [30], [31]). Repurposing is led by a restricted group of people, usually related to strategy office and/or marketing, and the vision resulting from repurposing is what we call 'in-house' organising vision. We see the whole process from sourcing elements to repurposing to generate the in-house organising vision as the *seeding* of organising vision. Figure 1 shows the elements from other visions repurposed in the in-house organising vision.

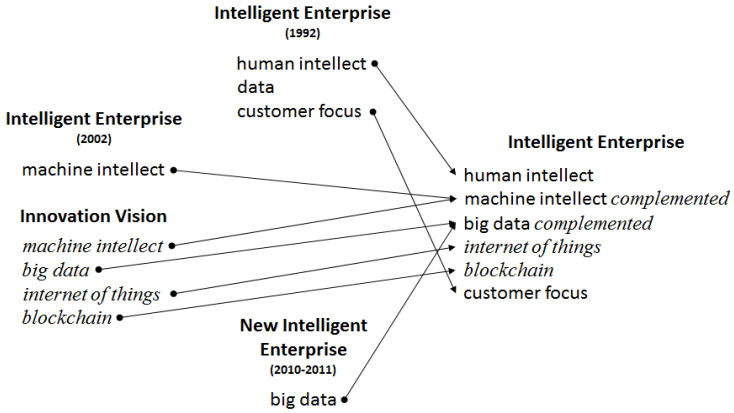

Fig. 1. Organising vision seeding.

We identified in the platform leader's in-house vision the human intellect left the sole protagonism as found in Quinn's [28] vision to be accompanied by the machine intellect suggested by Delic and Dayal [29] in their vision, which is complemented by specific details coming from platform leader's innovation vision (showed in *italic* in Figure 1). Quinn's idea of data-driven decision-making is also present, but more associated with big data, precisely the core idea in Hopkins and colleagues' [30] and Kruschwitz and Shockley's [31] work. Similar to the case of machine intellect, Hopkins and colleagues' [30] and Kruschwitz and Shockley's [31] big data also got idiosyncratic complements from platform leader's innovation vision. We did not find IoT and blockchain clearly associated with intellect (intelligent, knowledge, learning) or other early concepts, so it seems these pieces came directly from platform leader's innovation vision. The way these key elements mentioned were oriented – toward providing a better customer experience – is different from Delic and Dayal's [29] focus on firms adaptation to markets, and from Hopkins and colleagues' [30] and Kruschwitz and Shockley's [31] concern on firms competitive advantage, but resemble quite well the customer-centric idea of Quinn [28].

At the highest abstract, general level, the question to be answered by the in-house organising vision is: How does an organisation that has solved all major current and near future business issues look like? The identified most important characteristics of this envisioned organisation (e.g., intelligent) are purposefully linked to platform leader's current or near-future technologies (e.g., machine learning), those that the platform leader intends to get adopted in the short- to medium-term. Meanings and

language drawn from other visions should be familiar to the communities the in-house organising vision targets as an attempt to create desirable intelligibility [7], which implies these visions are likely to relate to the IS and management cultural collection. In other words, these external visions (or their elements) are not randomly picked from the crowd but rather have specific characteristics that make them suitable for repurposing.

The in-house organising vision is articulated inside the platform leader organisation. The result of this articulation is an organised vision that is shared across the organisation, shaped to accommodate (often different) voices of key organisation leaders. In the case of large companies with a vast portfolio of technologies aimed at a large number of different industry segments, it is possible to have several *versions* of the organising vision, each one targeting different communities with proposals closer to their business idiosyncrasies. These versions either enact common technologies in specific, unique way, or are backed by a different set of technologies. Figure 2 below shows the whole process of the organising vision genesis.

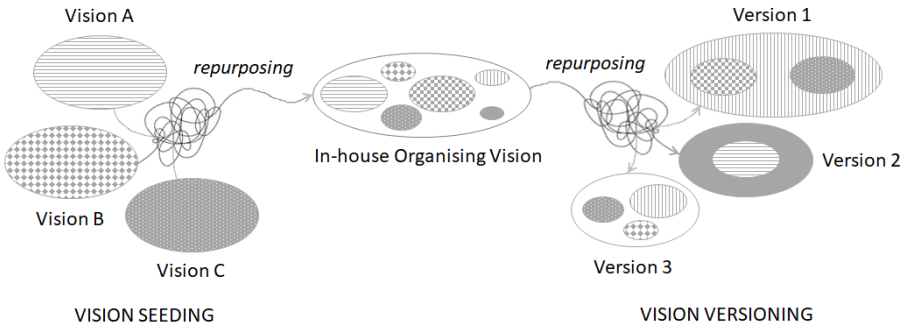

Fig. 2. The genesis of an Organising Vision.

6 Conclusion

Gorgeon and Swanson [20], Ramiller and Swanson [8], and Swanson and Ramiller [7] claimed organised visions emerge during the innovation's earliest diffusion from buzzwords, highly flexible labels that make it difficult to grasp as to what it is actually being referred to, but even though provide "a portal into the community discourse that builds the organising vision" [7, p. 463]. We see it differently. We do support the idea that organising visions are communally co-developed with market actors [7], [8], but we argue that organising visions do *not* emerge from buzzwords. Rather, organising visions derive from *repurposing* [34] other structured frameworks – especially when they come from the practitioner subculture [7], [11] – eventually reducing their ambiguity [9] and tending to engage communities by its intelligibility, which contrasts to the idea of engagement derived from high flexibility and confusion.

Repurposing suggests an additional consequence. It defines an earlier point in time when organising visions emerge, revealing new characteristics of their evolvement. We consider organising visions as developed *within* platform leaders' organisations before

reaching an external, wider community. In other words, they do not become organising visions only when they start to engage (external) market actors; they were shaped early on by different communities inside platform leaders' organisations. Therefore, platform leaders do not present to the market "a sketch of uncertain form – a modest, localized, interpretive swirl" [7, p. 462], but rather an organising vision with already a certain degree of maturity.

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