Unlocking the Newsroom: Measuring Journalists' Perceptions of Innovative Learning Culture

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ABSTRACT

Thorough understanding of how "outside the box" ideas in the newsroom can be triggered and fostered is fundamental to grasp innovation in journalism, but is still largely uncharted territory. Comprehension of its key elements would enable news organisations to reinvent themselves and improve chances for survival. In this article we develop an instrument to investigate if and how newsroom workers and management perceive an Innovative Learning Culture (ILC). This survey enables us to locate which aspects of ILC are bottlenecks or foster creativity and innovation processes. First we focus on how the different aspects of ILC are perceived: which aspects are experienced to foster or hinder an overall ILC. In a second step we analyse how respondent characteristics influence perceptions of these processes. In combining these two steps, the survey can be used as a key to "unlock" the newsroom with respect to its creative and innovative potential. We validated the survey in the newsrooms of two Dutch national quality newspapers, each with a different history, culture, audience and size. Findings show that they have similar perceptions of which ILC-aspects typically foster or hinder ILC in their newsrooms. We discuss the outcomes and provide suggestions for future research.

Introduction

News organisations have been adapting to a digital and multi-media news environment since the late twentieth century, and this often has proven to be a struggle (Buijs 2014; Ryfe 2012; Tameling 2015; Usher 2014). Legacy media in particular are forced into digital transition by their online competitors, who offer more versatile, more immediate and more user-friendly alternatives to their audiences (Küng 2015; Slot 2018; Westlund and Lewis 2014). Multiple authors have argued that if these established media seek to consolidate their position and want to remain relevant to their audiences, they should not merely adapt but fundamentally reinvent themselves (Fortunati and O'Sullivan 2019; Küng 2015; Westlund and Lewis 2014). Such a transformation does not happen overnight

as it depends on the creative, learning and innovation abilities of the news organisation, and hence, on its resilient culture (Seville 2017). A newsroom's "innovative learning culture", defined as ILC (Porcu 2017), is therefore of key interest to the study of journalism as well as to journalism itself.

The impact of culture on organisational innovation processes has been widely acknowledged across industries (Alvesson and Sveningsson 2008; Amabile et al. 1996, 1997; Naranjo-Valencia, Jiménez-Jiménez, and Sanz-Valle 2011; Naranjo-Valencia and Calderon-Hernández 2018). Unravelling how new or "outside the box" ideas are fostered within a newsroom culture, is a crucial part of understanding innovation processes in media organisations, but this has hardly been studied yet (Coleman and Colbert 2004; Nylund 2013). Nor have the perceptions of new-idea-fostering processes been examined often. With Griswold (2008) and Wallace and Wolf (2006) we assume the fundamental sociological insight that people act according to their perceptions. Consequently, perceptions of creativity and innovation, rather than "objective" work environments (Kwaśniewska and Nęcka 2004), can be decisive for the enhancement of innovation. In newsroom studies, however, this has yet to be mapped out.

Despite this research gap, it is fair to say that newsroom culture is a complex and intangible matter, and not easily measurable. As a consequence, there are hardly any measurement tools to tackle newsroom culture issues with respect to innovation. This is a problem, as not only does this prevent journalism scholars from gaining profound insights into newsroom innovation, it also hinders newsroom management as well as newsroom workers to take measures based on these insights.

The purpose of this article, therefore, is threefold. First, we develop an instrument to empirically measure the perceptions of an innovative learning culture (ILC) in the newsroom (Porcu 2017). Second, we validate this instrument within newsrooms, measuring perceptions of the different aspects of ILC. Third, we observe patterns in outcomes: which ILC-aspects are typically perceived to contribute to an overall ILC, and which are not. To summarise: the contribution of this article is that it presents an empirical instrument to measure ILC in newsrooms. Not only to understand how newsrooms experience innovation processes, but also to locate where, and to learn how, these processes can be improved to enhance a newsroom's resilience, as well as its reinvention and long term survival (Seville 2017).

Innovative Learning Culture (ILC)

The social climate in newsrooms that can stimulate "outside the box" thinking has been conceptualised by Porcu (2017) as an innovative learning culture (ILC). This is defined as a learning culture in (parts of) the organisation that triggers and fosters novel and creative ideas to experiment with and to learn from. Exploring new ideas is inherent to an innovation process, as the knowledge-creating potential of new ideas yields transformative qualities for the (entire) organisation (Cameron and Quinn 2011; Schenke 2015; Yolles 2009). Following Porcu (2017), ILC is defined as:

> a social climate that stimulates people to work and learn together, to grow as an individual and as a group (team, organization), and that provides people with the autonomy needed to be flexible, to experiment, to be creative, and to investigate radical possibilities in order for the organization to have better chances for survival in the long run. This is facilitated by

serving leadership, open communication, mutual trust, a supporting culture, shared goals, appreciation of individual achievement, and training and development. (Porcu 2017, 4)

ILC as a concept fills at least three gaps in the literature on newsroom innovation. First, learning and innovation processes of professional journalists, as opposed to the ones of students, appear to be strikingly under-researched. Literature on the development of people's talents mainly reflects "skilling", i.e., learning how to use certain new technologies (Cottle and Ashton 1999; Nygren 2014; Wallace 2013). Second, while learning and innovation processes of people are key to the ability of newsrooms to reinvent themselves, newsroom studies tend to focus rather on the diffusion of technological innovation (Boczkowski 2004; Chadha and Wells 2016; Reich 2013) than on the cultural prerequisites of broader innovation processes. Finally, studies that in fact do have an eye for the cultural aspects of innovation processes often view newsroom culture as a hindrance to change and renewal (Buijs 2014; Ryfe 2012; Tameling 2015; Usher 2014). Furthermore, these studies often perceive innovation processes typically from a management point of view, whereby attention to what "change agents" perceive dominates over what "change recipients" experience (Porcu 2017). This aligns with the current trend in the burgeoning scholarship on media management beyond journalism or the news industry (Faustino and Noam 2019; Küng 2008; 2016; Lowe and Brown 2016; Picard and Lowe 2016; Sylvie and Schmitz Weiss 2012) in which there is also a clear emphasis on management results.

Based on the more detailed account of ILC's underpinnings provided in Porcu (2017), we argue that ILC offers a new lens to look more closely at learning and innovation processes in newsrooms. Moreover, we argue that ILC is a prerequisite for new ideas to emerge, to be shared and developed in the newsroom. Based on the prolific literature on the influence of culture on innovation (see Brimhall and More Barak 2018; McLean 2005; Naranjo-Valencia and Calderon-Hernández 2018; Ness and Riese 2015, for more details), it can be argued that the more ILC is experienced in a newsroom, the more likely it is that new ideas will emerge, be talked about and, eventually, be able to blossom and enhance innovation processes in the newsroom. We also assume the reverse in likelihood is true. It is, therefore, interesting to discover how ILC actually is perceived in the newsroom.

Explorative (Outside the Box) Innovation

The value of ILC lies in the fact that this concept refers to a learning culture that triggers and fosters "explorative innovation" ideas (March 1991; O'Reilly and Tushman 2013), more popularly described as "outside the box" ideas (see also Porcu 2017). According to a range of authors, a culture focussed on experimenting with ideas is exactly the type of learning culture legacy newsrooms need, in order to create their own innovative opportunities instead of merely adapting to, and copying, others (Küng 2015; O'Reilly and Tushman 2004, 2013; Seville 2017; Westlund and Lewis 2014).

Explorative innovation as a term derives from the literature on organisational ambidexterity that distinguishes explorative innovation from "exploitative innovation" (March 1991; O'Reilly and Tushman 2013), the latter informally defined as "inside the box". At an organisational level ambidexterity literally refers to the ability to use both the right and the left hand equally well. It reflects the abilities of organisations to be, simultaneously, efficient in continuing traditional revenue streams as well as to be creative in coming up with new ideas and seizing opportunities in a fast-changing environment. March (1991, 73)

concluded long before digital disruption had entered the media landscape that exploitative innovation, with its typical lack of experimentation, is "potentially self-destructive" to an organisation. The reason for this threat is that organisations have the tendency to let themselves be overtaken by short term performance, as these bring rapidly visible results. This process then reinforces itself in a way that triggers only more exploitative innovation, leaving hardly any attention or resources for explorative innovation which focusses on the long term. But if organisations seek long term survival, at least both innovation types are needed (March 1991; O'Reilly and Tushman 2013).

However, as occurs with all vested organisations (March 1991; O'Reilly and Tushman 2013), news organisations are not very good at achieving explorative innovation (O'Reilly and Tushman 2004; Storsul and Krumsvik 2013; Tameling 2015; Westlund and Lewis 2014). Day-to-day news production, focussing on short term demand and efficient output, typically absorbs most of people's creative energies. These newsroom activities can be considered predominantly the domain of exploitative innovation with its small and incremental improvements. Hence, an organisational focus on the short term, with its predominance of traditional ways of working, thinking and doing what always has been done (Küng 2015), appears to prevail in newsrooms (O'Reilly and Tushman 2004; Storsul and Krumsvik 2013; Tameling 2015; Westlund and Lewis 2014). Furthermore, and in the context of limited resources, any increase of exploitative innovation – for example performing extra tasks to achieve more efficiency – also seems to diminish possibilities for explorative innovation (Nylund 2013).

Slot (2018, 9) illustrates this prevalence for exploitative innovation with an analysis of how different players in the Dutch journalism landscape perceive collaboration in innovation. The author finds that legacy media managers are internally oriented and in "survival mode" with a main focus on cost-cutting while trying to maintain revenues, as opposed to managers from media start-ups. The latter are more externally focussed and keen to seek collaboration with other parties. Both types of media managers operate in their immediate, short term interests: start-up media need to establish themselves and try to expand, established legacy media rather seek to protect what they already have. With respect to legacy media the financial pressure "resonates in the way knowledge is shared" and innovative collaboration with other organisations, therefore, is not deemed to be feasible.

Research thus shows that explorative innovation in legacy newsrooms is scarce, and hence, much needed (Fortunati and O'Sullivan 2019; Küng 2015; O'Reilly and Tushman 2004; Storsul and Krumsvik 2013; Tameling 2015; Westlund and Lewis 2014). Using ILC as a new lens to analyse how explorative innovation is triggered and fostered, can realise profound insights into how newsrooms can move beyond daily routines and explore their own creativity, building resilience (Seville 2017).

Another value of ILC is that it can be seen as a more defined concept than more broadly used terms like "organisational creativity" (McLean 2005), "organisational learning culture" (Joo 2010) or "innovativeness of the firm's culture" (Montes, Ruiz Moreno, and Molina Fernández 2004). Furthermore, ILC holistically addresses management as well as workers, and the dynamics between them, instead of taking a management point of view, as often happens in studies on newsroom innovation (see for instance Boyles 2016; Heckman and Wihbey 2019; Lowrey 2011; Sylvie and Gade 2009; Slot 2018).

ILC can be studied in any type of newsroom. For the purpose of this article, however, we will focus on newspaper newsrooms. Digital disruption has impacted the newspaper

industry more dramatically than other media sectors (Evans 2016; Tameling 2015). While newspaper organisations have multiple transformational challenges to meet, they are still considered "at the agenda-setting core of the news chain" (Fortunati and O'Sullivan 2019, 143). From a democratic point of view, newspapers still have a crucial function in society. Hence, if they fail to innovate their demise could have serious consequences. Scholars therefore argue that newspaper organisations need to profoundly reinvent themselves. This can also include a new way of looking at the relationship with their audiences or their role in society at large (Borger 2016; Fortunati and O'Sullivan 2019; Pavlik 2013; Swart 2018).

Methodology

In order to measure perceptions, beliefs and attitudes about ILC, we have constructed a questionnaire with multiple scales, measuring different aspects of ILC (Bryman 2008; Creswell 2014; Taber 2018). We have designed an online self-completion survey to reach a large number of respondents in a short period of time at low cost (Bryman 2008). In this paragraph, we address the construction and validation of the survey instrument.

(1) Construction of the survey instrument

The construction of the survey is based on ILC as a concept and is modelled after an existing survey measuring the "professional learning culture" (PLC) of teachers (Oberon, Kohnstamm & Iclon 2014; Schenke et al. 2015). The PLC-survey (66 items in 11 scales which measure characteristics of and conditions for PLC) has been adapted to fit a newsroom context and is merged with items that measure aspects of explorative innovation culture (EIC). Conceptually speaking, ILC is the sum of PLC and EIC (Porcu 2017). The PLC survey and the EIC items have been used to compile the ILC questionnaire (75 items in 11 scales which measure characteristics of and conditions for ILC), using a 5-point Likert scale.

Designing the questionnaire has encompassed a process of delineating what aspects of the ILC-concept can be translated into survey scales. This process is summarised in the appendix, presenting the aspects of the ILC-concept, a comment on the translation alterations into scales, followed by (the number of) subject items as well as by the scale order chosen. Below the survey is presented with definitions of the scales. A distinction is made between characteristics of and conditions for ILC. The number of items used is mentioned between brackets:

Four scales measuring characteristics of ILC

1.	Sharing knowledge	learning from each other through active sharing	(6)
2.	Developing together	learning from each other by creating something together	(5)
3.	Experimenting	trying out new possibilities with insecure outcomes	(9)
4.	Exploratory attitude	exploratory attitude towards improving (one's) work	(6)

Seven scales measuring conditions for ILC

5.	Shared goals	workers and management pursuing the same targets	(7)
6.	Autonomy	agency to make decisions about (one's own) work	(7)
7.	Training & development	systematic attention for the development of people	(6)
8.	Internal communication	open dialogue between members in the organisation	(6)

9.	Support from colleagues	self-evident support from colleagues in a climate of trust	(7)
10.	Leadership editors in chief	management's focus on enabling people to develop	(8)
11.	Leadership middle-management	middle-management's focus on enabling people to develop	(8)

To avoid a priming effect, the scale headings and their definitions have not been displayed to respondents in the survey. The survey items are preceded by questions about age, gender, job characteristics and employment conditions. This is based on research showing that characteristics of people or groups of people have an impact on the work floor, and hence, can impact a newsroom's ILC.

Age, for example, influences idea creativity in general (Binnewies, Ohly, and Niessen 2008). How people perceive creativity in the workplace can be related to holding a management position or not (Kwaśniewska and Nęcka 2004), to gender (Kwaśniewska and Nęcka 2004), as well as to the employment conditions one has (Montes, Ruiz Moreno, and Molina Fernández 2004). With respect to newsrooms, gender has become a growing research terrain as it influences salaries as well as job satisfaction (Lucht 2015), sexual harassment (North 2016) and newsroom culture (Elmore 2007; Nilsson 2010). Job insecurity is found to have a negative impact on changes in journalism practices (Ekdale et al. 2015), as well as on being able to practice journalism as a profession in the first place (Gollmitzer 2014). Also being part of a specific newsroom subgroup matters. For instance, people working with texts or people working with images often communicate in a very different manner which can lead to newsroom tensions (Lowrey 2002).

For the purpose of this article, and related to the aforementioned literature, we take into account the following eight characteristics: *age* (measured in years), *gender* (male or female), *job type* (choice for the main function from a list of possible newsroom jobs), *contract type* (choice of 4 options: permanent, temporary, freelancer or "other"), *contract Y/N* (having a contract or not), *how long title* (how long one is working in the newsroom, measured in years), *management Y/N* (holding a management position or not) and *text Y/N* (working with text or not). For analytical reasons these are also referred to in a regrouped fashion: demographics (*age*, *gender*, *how long title*), newsroom positions (*job type*, *management Y/N*, *text Y/N*) and employment conditions (*contract type*, *contract Y/N*).

(2) Validation of the survey instrument

The validation of the measurement instrument, the ILC-survey, has been tested in two newsrooms in the Netherlands. *NRC Media* and *Trouw* are both national quality newspapers with similar production processes, but with a different size and at different publishing companies. Both are firmly positioned brands in the Dutch media landscape. We assume that, because of their market position, they are more likely to have resources to invest in innovation than smaller or regional newspapers. Additional motives for this selection of newspapers are availability and proximity.

The demographic composition of both newsroom populations as well as survey samples, showing age, gender and employment conditions, are summed up in Table 2. *NRC Media* has a relatively large newsroom: 228 persons have a direct (temporary or permanent) contract with the newspaper and 93 persons work as freelancers or in some flexible construction in the newsroom which adds up to a total of 321 individuals,

excluding interns. *Trouw* has a relatively small newsroom with 124 persons under direct contract and 47 freelancers or in some flexible construction, adding up to 171 persons, excluding interns.

Sampling Method & Distribution of the Survey

Everyone in the newsroom has had an equal chance to be part of the sample. Samples have been collected in April 2017 for *NRC Media* and in April 2018 for *Trouw* by sending out an invitation to all workers and management in the newsroom, including interns: 317 individuals at *NRC Media* and to 184 at *Trouw*. Reminders have been sent twice to all respondents in the subsequent weeks after the initial invitation. At *NRC Media,* not all 93 freelancers have been reached as not all of them use a personalised newsroom email account. To ensure confidentiality for respondents and to protect their privacy (Buchanan and Hvizak 2009), internet tracking cookies have been disabled when sending out the survey-link. Furthermore, data are stored on a server not accessible to anyone in these news organisations, and data have been studied by the researchers involved only. Confidentiality is very important for people working in the news industry, where job insecurity has become an issue (Deuze and Witschge 2018; Martinez-García and Navarro 2019). Hence, a confidentiality warrant has been explicitly communicated in the introduction of the survey. To minimise drop-out rates, the survey has been tested to ensure respondents could fill it out within approximately 10 min. The first author was present in the newsroom at the time of the survey to answer questions, when needed.

Internal Reliability of the Survey

The internal reliability of the scales of the survey instrument is calculated after testing with a reliability test in SPSS using Cronbach's alpha (Bryman 2008). An alpha of .70 and higher is commonly accepted as satisfactory, an alpha of .80 and above has been described as "fairly high" and values of .90 and above are viewed as "excellent" (Taber 2018, 1279). Results from the internal reliability test will be reported in the findings in the next paragraph.

Measurement Validity of the Survey

To test whether the instrument measures what it is expected to measure, we look for measurement validity (Bryman 2008), obtainable in various ways. In this study, we adopt content validity (Creswell 2014). Content validity is measured to examine "whether the scores from the instrument show that the test's content relates to what the test is intended to measure" (Creswell 2014, 180). We argue content validity has been established prior to testing by building upon the theoretical underpinnings of ILC (Porcu 2017), while adopting and enriching an already validated questionnaire (Schenke et al. 2015). Furthermore, we have discussed the survey items with a panel consisting of ten experts: five journalists, two educational sciences scholars and three journalism studies scholars, each evaluating the survey from their own perspective with the aim to improve it. The journalists in the panel were asked to focus at readability as well as the

comprehensibility of the items in the survey and the scholars have given special attention to wording as well as the order of the scales. The panel has made fruitful comments throughout the development of the survey and has served as a check to avoid any possible bias.

Generalisation of the Survey Samples

Generalisation of the results is confined to the newsroom populations from which the samples are taken, if conditions for representativity are met (Bryman 2008). To address these conditions, we consider response rates and use the demographics age and gender as well as employment conditions to determine the representativity of the samples after testing.

Findings & Discussion

As measurement validity has been determined prior to testing, in this paragraph we determine if the survey instrument meets the conditions for internal reliability and generalisation to the newsroom populations, also set out in the previous section. Response rates are addressed as well. Second, we show how demographics, newsroom positions and employment conditions of respondents can be related to fostering or hindering perceptions of aspects of ILC, and how these relations can differ between newsrooms.

(1) Validation of the survey instrument

Internal Reliability of the Survey

Combining the dataset of both newsrooms we determine the internal reliability of the scales, via a reliability test in SPSS calculating Cronbach's alpha. In Table 1, we see that the scales have alpha's ranging between .72-.91, with an overall alpha of .831, which all indicate high internal reliability (Taber 2018).

We observe in Table 1 that seven scales, in particular, have a valid response of over 90%. This response diminishes with *Experimenting*, *Training and development* and the two *Leadership* scales, of which the latter two having been responded to least. We can only

Table 1. Cronbach's Alpha ILC per scale of both *NRC Media* and *Trouw* newsrooms (total *n* = 237).

ILC-scale	Cronbach's alpha	Items	Valid *n*	Valid %
1. Sharing knowledge	.814	6	208	90.4
2. Developing together	.781	5	209	90.9
3. Experimenting	.862	9	198	86.1
4. Exploratory attitude	.724	6	214	93.0
5. Shared goals	.815	7	214	93.0
6. Autonomy	.793	7	215	93.5
7. Training & development	.808	6	190	82.6
8. Internal communication	.865	6	218	94.8
9. Support from colleagues	.896	7	214	93.0
10. Leadership editors in chief	.869	8	184	80.0
11. Leadership middle-management	.909	8	183	79.6
Total		75		

Table 2. Newsroom populations (N) *NRC Media* (2017) and *Trouw* (2018) and their survey samples (*n*).

Newsroom	Under contract					Freelance or "Flex"					Totals				
	Gender		Total	Age		Gender		Total	Age[a]		Gender		Total	Age[a]	
	F	M		<40	≥40	F	M		<40	≥40	F	M		<40	≥40
NRC Media	F	M		<40	≥40	F	M		<40	≥40	F	M		<40	≥40
N	95	133	228	78	150	39	54	93			134	187	321		
%	41.7	58.3	100	34.2	65.8	41.9	58.1	100			41.7	58.3	100		
n	44	64	108	44	64	12	15	27			56	79	135		
%	40.7	59.3	100	40.7	59.3	44.4	55.6	100			41.5	58.5	100		
Trouw	F	M		<40	≥40	F	M		<40	≥40	F	M		<40	≥ 40
N	58	66	124	32	92	28	19	47	26	21	86	85	171	58	113
%	46.8	53.2	100	25.8	74.2	59,6	40.4	100	55.3	44.7	50.3	49.7	100	33.9	66.1
n	39	45	84	24	60	6	5	11	4	7	45	50	95	28	67
%	46.4	53.6	100	28.6	71.4	54.5	45.5	100	36.4	63.6	47.4	52.6	100	29.5	70.5

[a]Data on the age of freelancers at *NRC Media* have not been available. As a consequence, representativity for age of freelancers as well as for age totals cannot be determined, as has been done for other groups in this newsroom.

speculate on why this is the case. Interestingly, *Leadership middle-management* has turned out to have an alpha that reflects the highest scale reliability (Taber 2018) but has been filled out least. It seems probable to assume that notwithstanding the explicit anonymity warrant given in the survey, evaluating one's direct superior may be viewed as controversial, leading to a moderate "chilling effect" (Kempner 2008) in responses.

Generalisation of the Survey Samples

Before expanding into a generalisation of the data to the respective newsroom populations, we note that this study is concerned with people who physically work in the respective newsrooms, and have done so for more than a couple of months, in order to be able to respond the survey adequately. For this reason, all (former) interns who have answered the survey link (3 at *NRC Media*, 4 at *Trouw*) have been removed from the sample. Bouncing links also have been disregarded. This means that from the originally 317 links sent out at *NRC Media*, we consider 314. From the 184 links sent out at *Trouw*, we consider 171. In determining sample representativity we consider if the response rate is sufficient, and if gender, age and employment conditions in the samples are representative for the newsroom populations.

The response rate after three calls at *NRC Media* results in 42.9% ($n = 135$, from 314 links sent) and at *Trouw* in 55.6% in ($n = 95$, from 171 links sent). In general, response rates to online surveys are found to be significantly lower than paper-based ones. According to Nulty (2008: 302), who compares online surveys to paper-based ones, online ones achieve on average "33% compared with 56% = 23% lower". Based on this, we argue both responses are relatively high. Data of both samples, therefore, have a sufficient basis for generalisation.

Regarding gender, we find at *NRC Media* that 41.5% of the sample of the total newsroom is female, with 41.7% in the population (males sample: 58.5%, population: 58.3%). At *Trouw* we find a total of 47.4% being female, against 50.3% in the population (males sample: 52.6%, population: 49.7%). Based on the relatively small differences between samples and populations, we consider representativity to be established for both newsroom samples with regard to gender.

Considering age, we merge our data into two groups: people under 40 years of age (−40) and people over 40 years of age (+40). As data on the age of freelancers at *NRC Media* have not been available (see also Table 2), we cannot determine age representativity for its entire newsroom. Instead, we observe the age of contracted people at *NRC Media* and find that 40.7% of the sample is −40, against 34.2% in the population (+40 sample: 59.3%, population: 65.8%). At *Trouw* we see 28.6% of −40 of the contracted people in the sample, compared to 25.8% in the population (+40 sample: 71.4%, population: 74.2%). Moreover, we can calculate the totals for the entire *Trouw* newsroom: 29.5% of the sample is −40, compared to 33.9% in the population (+40 sample: 70.5%, population: 66.1%). Based on the relatively small differences between samples and populations of, we argue representativity has been established for both samples with respect to age of the contracted. Representativity in age for the entire *Trouw* newsroom has been established as well.

Looking at employment conditions, we find that 80% in the *NRC Media* sample is under direct contract with the newsroom, against 71% in the population (flex force sample: 20%,

population: 29%). At *Trouw* we find 88.4% under direct contract in the sample, against 72.5% in the population (flex force sample: 11.5%, population: 27.5%). Both the samples show an under-representation of flex people (*NRC Media*: $\chi^2 = 4.5$; df = 1; $p < 0.05$; *Trouw*: $\chi^2 = 12.1$; df = 1; $p = < 0.05$).

We can only speculate on why the flexible workforce of these newsrooms appears slightly under-represented in this survey. It is probable that the very nature of their flexible ties with the newsroom means that freelancers don't have the same amount of time as their contracted colleagues to fill out a survey. Based on qualitative data consisting of remarks made to the researcher ("I really have tried to fill it out, but I simply am not able to answer all of these questions as I don't know the answers"), it is also possible that not all freelancers enjoy the same level of relatedness to the newsroom and, hence, are unfamiliar with some topics in the survey. This may also be discipline related, in terms of working with text or working with images or other disciplines. Another part of relatedness or involvement, in the sense of a feeling of belonging, can also motivate under-representation and may lie in the perception of freelancers that the survey was not meant for them, as several people remarked ("I automatically thought that as a freelancer I do not really belong to this newsroom, so I didn't think it was for me, actually"). From these observations, we argue that more research is needed to fully understand how this varied group of flexible workers perceives aspects of ILC in the newsroom.

We conclude that response rates are sufficiently high to allow for generalisation. In terms of demographics, gender is representative for both entire newsrooms, as well as is age with regard to the contracted part of the workforce. Age can also be generalised to the entire newsroom of *Trouw*.

(2) Measuring perceptions of ILC-aspects

When applying the ILC instrument to the two newsrooms we find, in an initial observation, that in both newsrooms nearly all means are scores of ≥ 3.0. Hence, on a 5-point scale both newsrooms perceive a score which can be considered "sufficient" on all ILC-aspects. Moreover, calculating an overall mean, we find that they have similar scores: *NRC Media* = 3.3679 and *Trouw* = 3.3151. Based on these absolute figures, we can conclude that ILC, overall, is perceived to be sufficient. However, delving deeper into the relative rankings of the different ILC-aspects, we find a more diverse picture.

Looking closely at the means and the statistical significances per scale, as presented in Tables 3 and 4, we find consistency in the rankings of perceived ILC-aspects. Both newsrooms have a top 5 in which 4 out of 5 aspects are perceived similarly (*Shared Goals*, *Experimenting*, *Support from Colleagues* and *Autonomy*). Both have *Shared Goals* as number 1. This is also the case for the bottom of the rankings: 4 out of 5 are the same (*Developing together*, *Leadership Editors in Chief*, *Exploratory attitude* and *Training & Development*), with *Leadership Editors in Chief* for both in 10th position.

This means that both newsrooms perceive the same ILC-aspects to contribute most to an overall ILC – "fostering" – as well as experience the same ILC-aspects to contribute least to it – "hindering". This is a crucial first step in scrutinising which aspects are perceived to be up for improvement.

This first finding is remarkable with respect to our survey instrument. Both newsrooms differ substantially in history, culture, audience and size. The only thing they appear to

Table 3. Mean scores scales ILC with statistically significant characteristics for *NRC Media* (2017).

Scales ILC-aspects NRC (top down) ↓	Means ILC-aspects	SD	Significant characteristics ILC-aspects
1. Shared goals	3.6040	0.363	Job type**
			Text*
2. Internal communication	3.5987	0.433	Contract**
			Contract type*
3. Experimenting	3.5528	0.330	
4. Support from colleagues	3.4778	0.557	Age***
			Contract***
			How long title***
			Contract type **
			Text**
5. Autonomy	3.4567	0.334	Age*
6. Sharing knowledge	3.4542	0.498	
7. Leadership middle-management	3.3993	0.565	
8. Developing together	3.2544	0.545	
9. Exploratory attitude	3.1693	0.347	Contract*
10. Leadership editors in chief	3.1272	0.526	
11. Training & development	2.9522	0.589	

Note: .01 < *P*-value ≤ .05*; .001 < *P*-value ≤ .001**; *P*-value ≤ .001***.

have in common is that they both are (national) newspapers. This means that, with respect to the perception of ILC-aspects, these apparently different newsrooms in fact have similar experiences, which the survey measures consistently. Further research is needed to see if this finding expands across other newspaper newsrooms or other types of media newsrooms.

The second step to examine where there is room for improving a perceived ILC in the newsroom is to look if the ranked ILC-aspects relate to statistically significant respondent characteristics, or not. When this is the case, perceptions of ILC-aspects are systematically related to a demographic, a newsroom position or an employment condition, or a mix of these. When this is not the case, ILC-aspects are experienced independently of the newsroom's sociological makeup or people's positions. In the latter situation, this means ILC-aspects have a broad support base in the newsroom, not influenced by specific respondent traits. In using the survey, it is the combination of these two steps, that can unlock the newsroom, as mentioned before.

Table 4. Mean scores scales with statistically significant characteristics for *Trouw* (2018).

Scales ILC-aspects Trouw (top down) ↓	Means ILC-aspects	SD	Significant characteristics ILC-aspects
1. Shared goals	3.6831	0.339	
2. Support from colleagues	3.5761	0.400	
3. Autonomy	3.4838	0.310	Job type*
4. Sharing knowledge	3.3826	0.426	
5. Experimenting	3.3704	0.369	Management*
6. Leadership middle-management	3.3467	0.502	
7. Training & development	3.2556	0.354	
8. Exploratory attitude	3.1207	0.250	
9. Internal communication	3.1098	0.455	Contract**
			Contract type*
			How long title*
10. Leadership editors in chief	3.0868	0.334	
11. Developing together	3.0500	0.397	Text*
			Management*

Note: .01 < *P*-value ≤ .05*; .001 < *P*-value ≤ .001**; *P*-value ≤ .001***.

We find that, contrary to *NRC Media*, the bulk of *Trouw*'s ILC-aspects perceived to *foster* an overall ILC are broadly supported in the newsroom, hardly influenced by respondent characteristics. And, contrary to *Trouw*, we find that the bulk of *NRC Media's* ILC-aspects perceived to *hinder* an overall ILC are broadly supported in the newsroom, hence, hardly influenced by respondent characteristics.

With respect to our survey instrument, these findings show that ILC-aspects related to statistical significances offer survey-based "handles" to see where perceptions of ILC-aspects, and therefore a perceived overall ILC, can be improved. When there are no statistically significant relations to be found, other kinds of research can be used to find out more on the ILC-aspect in question. In these cases, we argue any ILC-aspect can be used as a topic in a qualitative interview, or as a conversation starter with – or between – newsroom management and workers.

Another way in which the two newsrooms are found to differ is the number of significances per perceived ILC-aspect, which appears to reflect the "density" of the ILC-aspect's position dependency: the extent to which the aspect is influenced by respondent characteristics. Looking at Tables 3 and 4, not the fact that both newsrooms differ in the absolute number of statistical significances is noteworthy per se. What is striking, however, is the difference in the "clustering" of statistical significances around an ILC-aspect. At *NRC Media*, with the exception of *Experimenting*, nearly all ILC-aspects are related to more than one characteristic. ILC-aspects with statistical significances are found to be multiple related at *NRC Media*, with the largest cluster, *Support from Colleagues,* being related to five respondent characteristics: a mix of demographics, newsroom position and employment conditions. At *Trouw* the density in clustered significances is spread thinner: two ILC-aspects have more than one statistical significance, one of them (*Internal Communication*) having three respondent characteristics that influence perceptions of this ILC-aspect.

This difference in the density and the clustering of statistical significant respondent characteristics related to certain ILC-aspects gives rise to the question of what this means with respect to the measurement of ILC in both newsrooms. From the statistics, we can only deduct the fact that differences in the density of clustering are found. However, interpretations of what these differences actually can mean, are not so straightforward. A large susceptibility to respondent characteristics can indicate the importance of status and hierarchy in a newsroom, or it can indicate newsroom dynamics in general. And a small susceptibility to respondent characteristics can suggest strong social coherence in a newsroom, but also a less hierarchical newsroom culture. This finding can be relevant input for further, more qualitative research with these statistics as a starting point.

Learning more about the differences between the newsrooms we can calculate in what way they differ from each other in a significant way. Looking at the statistically significant differences between the means of *NRC Media* and *Trouw* we calculate the eta squared with SPSS. We sum up the results in Table 5, including its effect interpretation (Cohen 1988):

From this calculation, we can deduct that the means of *NRC Media* and *Trouw* on these three ILC-aspects differ statistically in a significant way. The largest effect between these newsrooms is found with *Internal communication*, and a medium effect results from *Training & development*. Differences in *Experimenting* are equally statistically significant, with a small effect. Looking back at our relative rankings, interestingly, we find that of these three calculated differences, *Internal Communication* is influenced by employment conditions in both newsrooms, in a similar way.

Table 5. Statistically significant differences sample means *NRC Media* and *Trouw*.

Scale ILC NRC-Trouw	P	Df	F	Eta squared	Interpretation
Experimenting	.044	1	4.092	.021	small
Training & development	.004	1	8.475	.044	medium
Internal communication	.000	1	26.398	.110	large

Limitations to the Research

Three limitations of this study should be noted. First, the statistical relations found can be explored further in order to understand what the exact relations consist of. However, as unravelling these in detail would distract from the very purpose of this article, which is to develop and validate a survey to study and improve creativity and innovation processes, we have had to refrain from delving into the specifics of the statistics. Second, the first author was present in the newsroom at the time of the distribution of the survey, to answer questions when needed. This presence may have influenced the relatively high response rate. Third, for this article only Dutch, national newspaper newsroom populations have been taken into account, which may reflect a specific professional culture. The ILC-survey instrument, however, can be used in other news organisations and in other countries as well.

Conclusion

In this article, we have developed and validated a survey instrument to measure innovative learning culture (ILC), a concept of Porcu (2017), in two Dutch national newspaper newsrooms, in order to learn more about creativity and innovation processes which are largely uncharted territory in newsroom studies. Knowing what is key to allow for "outside the box" innovation processes in the newsroom is fundamental for scholars to better understand newsroom innovation. At the same time, better comprehension of these innovation processes allows news organisations to develop their resilience, reinvent themselves and improve their chances for long-term survival (Küng 2015).

The survey is used in a two-step approach. First, the ranking of the perceptions of the different ILC-aspects gives a crucial first indication of which aspects are to be tackled to improve an overall ILC. The question what fosters or hinders ILC can thus be answered. Second, if perceptions of an ILC-aspect appear to be influenced by respondent characteristics in a statistically significant way, these relations then can be used to examine possible improvements even more specifically. The combination of the two steps can actually function as a key to "unlock" the newsroom's capacity for innovation.

We find that newsrooms who differ much in history, culture, audience and size, have a surprisingly typical ranking of ILC-aspects that they perceive as fostering their overall ILC (*Shared Goals, Experimenting, Support from Colleagues* and *Autonomy*). Both have *Shared Goals* as their number 1 contributing ILC-aspect. They also have a typical ranking of those aspects they perceive as a hindrance to their overall ILC (*Developing together, Leadership Editors in Chief, Exploratory attitude* and *Training & Development*), *Leadership Editors in Chief* ranked in the second to last position in both newsrooms. In both newsrooms, the flexible workforce was rather unrepresented in the samples, and presumably for reasons having to do with the very precarious nature of their employment conditions. Further,

more qualitative research is needed to examine how the flexible workforce experience ILC in the newsrooms in which they work.

Furthermore, the found perceptions of aspects that hinder an overall ILC in both newsrooms appear to reflect the findings of several newsroom scholars (Ekdale et al. 2015; Ryfe 2012; Sylvie and Gade 2009; Tameling 2015; Usher 2014, amongst others). The value of this survey then lies in its holistic application, with a specific focus on "outside the box" ideas, addressing all members in the newsroom, and resulting in an overview of where fostering or hindrance of ILC is experienced. This overview is crucial in understanding how a newsroom's capacity for innovation can be improved.

The differences between these surveyed newsrooms can partly be explained by the influence of respondent characteristics on the perceptions of ILC-aspects. Furthermore, findings partly appear to be uniquely related to the respective newsroom culture. It is interesting that these cultural differences are reflected in the survey results. For the interpretations of these differences, however, in-depth qualitative research is needed.

Disclosure Statement

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Appendix

From ILC as a concept (Porcu 2017) to ILC as a survey modelled after a survey for teachers developed by Oberon et al., (2014) and Schenke et al. (2015).

Characteristics of ILC	Alterations	Scales in ILC survey (number of items, items total = 75)	Item subjects (j = journalism; s = systematic; fb = feedback; stim = stimulation; ex = experimental; pro = project; inf = influence on; res = responsibility; str = strategy)	Scale order
1. Learning from each other	Distinguished in different scales with slightly different but more concrete significance	Sharing knowledge (6)Developing together (5)	training, routines, quality, juniors/seniors, vision journalism, j-developmentsnew routines, j-storytelling, online chances, input readers, problem solving	1.2.
2. (Re)search/ investigation	No alterations in significance, only in name	Exploratory attitude (6)	j-developments, improvements, stim new idea, s-reflection, fb readers, change	4.
3. Experimental	No alterations in significance, slightly in name	Experimenting (9)	creativity, appreciation/execution ideas of/from colleagues/management, participation ex-projects, s-stim to take part in ex-pro, appreciation radical ideas	3.
4. Autonomous	No alterations in significance, slightly in name	Autonomy (7)	inf-developing, (inf-)professionalisation, inf-strategy, res-quality, expertise, free	6.
5. Creative	Integrated into scale Experimenting	see also Experimenting		
6. Radical	Integrated into scale Experimenting	see also Experimenting		
7. Flexible	Integrated into scale Exploratory attitude	see also Exploratory attitude		
Conditions for ILC				
1. Leadership	Distinguished in different scales, same items	Leadership editors in chief (8) Leadership middle-management (8)	offer time: to share, to experiment with new ideas, to exchange fb; stim plans development, actively involves newsroom in strategy	10. 11.

Continued.

Characteristics of ILC		Alterations	Scales in ILC survey (number of items, items total = 75)	Item subjects (j = journalism; s = systematic; fb = feedback; stim = stimulation; ex = experimental; pro = project; inf = influence on; res = responsibility; str = strategy)	Scale order
				title, stim exploratory attitude, stim entrepreneurial attitude, take development people seriously	
2.	Communication	No alterations in significance, slightly in name	Internal communication (6)	verbally/digitally developments, from str to practice, sharing knowledge newsroom /key developments in meetings, conversation on quality management and workers	8.
3.	Mutual trust	Altered into new scale Support from colleagues	Support from colleagues (7)	workers/management: respect, appreciation efforts, counting on each other in tough situations, openness towards one another, openness in giving each other fb, call each other to account, offering help to each other without being asked first	9.
4	Supporting culture	Integrated into scale Support from colleagues	see also Support from colleagues		
5.	Shared goals	No alterations in significance	Shared goals (7)	workers/management: (exchange) res quality, strategy, change, develop, open fb	5.
6.	Appreciation	Integrated into Training & development	see also Training and development		
7.	Training & development	No alteration in significance	Training & development (6)	s attention for: training, development, hr-strategy, time/ stim innovation, success	7.