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Tracking lives, forging markets

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ABSTRACT

In the insurance industry, digital technologies have been harnessed in pursuit of three goals: personalising services for customers, obtaining information about them and nudging them towards behaviour that diminishes their risks. This article examines two Finnish companies that use self-tracking practices and sensor-generated data in life insurance products. It investigates the knowledges and practices mobilised in a design process that aims to transform the customer relationship from reactive to proactive. Insurers use three main strategies, *educating, incentivising* and *partnering,* in striving to align their aims with those of their customers. Instead of confirming narratives of 'digital disruption', this study argues that insurance should be understood as a historically specific technology within regulatory constraints and market frictions. The new policies' most distinctive disruptive feature is the technological mediation of the customer relationship. Critical voices rightly point out that behaviour-based insurance carries the potential for discrimination and dataveillance. Our study shows, however, that critique remains abstract or even hypothetical if it does not consider existing practices and the difficulties that insurers face when implementing their ideas.

Introduction

With the development of (big) data analytics and the widespread hype surrounding the market opportunities generated by data-related practices, companies are increasingly employing digital technologies to become intimately involved in people's lives. Service providers aim to produce digital landscapes or maps that are a sufficiently close fit to reality for people to inhabit (Thrift 2011, Ruckenstein 2017), thereby creating spaces in which the co-existence of customers and service providers feels seamless and authentic. Consequently, through techniques such as social media analytics, targeted advertising and wearable technology, people's lives are becoming increasingly datafied and entangled with organisations and businesses providing a vast range of services, including life insurance. As Fourcade and Healy (2017, p. 23) observe, 'the market sees you from within, measuring your body and emotional states, and watching as you move around your house, the office, or the mall'.

The new intimacy of technology development has generated social scientific analysis and criticism focusing on issues such as dataveillance, biopower and biopolitical marketing while emphasising the exploitative nature of technology-enabled governance and value extraction (Van Dijck 2014, Lupton 2016, Zwick and Bradshaw 2016, Charitsis *et al.* 2019). Empirical studies analyse how

companies design inhabitable maps that proactively respond to and shape people's everyday practices and aims. For example, drawing on research conducted among technology developers and marketers of personal health technology, Schüll (2016, 2018) examines how algorithmic care is designed as a feature of products used to assist and reinforce chosen behaviours; she detects a thermostat-like logic in these products, which actively regulate users in their daily choices via automated prompts like taps and buzzes. Similarly, Berg (2017, p. 6) observes how designers of wearables approach users 'as vulnerable beings in need of assistance, advice, and actionable guidance'. Digital devices seek an insider position; rather than remaining at the border, they enter the everyday life, scouting, browsing and responding to it.

Through our case study of two Finnish life insurance policies that use self-tracking practices and sensor-generated data – known as 'behaviour-based insurance policies' – we analyse the design aims of a new insurance technology that is supposed to participate actively in customers' lives and manipulate their behaviour. Our goal is to open to exploration the emerging behaviour-based insurance practices in a 'not-yet-market' (Meyers 2018), characterised by actions that anticipate, forge and constitute future markets. We analyse the regulatory context and the existing insurance market and how each affects the design process. Moreover, we examine what kinds of knowledges and practices insurance professionals mobilise to know their customers and facilitate behavioural changes among them. As we show, the companies' goal is to transform the customer relationship from reactive to proactive, to *align* their policies' aims with their customers' daily choices by educating, incentivising and partnering with them.

Critical analyses claim that the new 'insurtech' solutions could result in intensified dataveillance, personalised premiums and real-time rate adjustments that would thus not only reproduce but also strengthen existing inequalities (Gidaris 2019, Zuboff 2019). Such solutions might also enable insurers to calculate risk more precisely and thus lead to excluding people deemed high-risk from coverage (König 2017). These critical analyses, however, tend to have two systematic weaknesses: they rarely consider insurance as a specific technology, and they lack empirical evidence (Tanninen 2020). By contrast, recent studies analysing existing insurance cases indicate that the new schemes are often still in the pilot stage and that infrastructural and regulatory barriers hinder many of the envisioned applications of behaviour-based personalisation (Meyers 2018, McFall 2019). Barry and Charpentier (2020, p. 9) suggest that there is 'a tension between imaginaries of personalization, and the calculative devices currently used to assess risks'; instead of a 'disruptive' individualisation of risk, 'big data' solutions are used in motor insurance, for example, to refine existing classifications and enhance traditional actuarial methods and insurance practices. Therefore, at least for now, it appears that the main purpose of the new products is to *personalise the insurance companies,* rather than their customers; that is, to act as a form of marketing (McFall and Moor 2018).

We recognise the performative power of insurtech developments that shape the possibilities of future markets (Cevolini and Esposito 2020), but our study shows that local contexts and historical continuities are equally important. Finns are provided universal health care at very low cost, and the general welfare system guarantees a decent basic income for citizens exposed to economic vulnerability; thus, private health and life insurance policies are often regarded as forms of extra security (Lehtonen and Liukko 2010). The new insurance policies are influenced not only by the potential market but also by marketing goals that highlight the importance of the customer experience and customer value, using methods, like service design, that focus on collecting detailed customer information and personalising products and services in light of that information. Data analytics is the newest tool for 'seeing' and 'knowing' consumers – to use Fourcade and Healy's terms (2017, p. 23) – and imagining how to improve customer relationships.

As we demonstrate, accessing people's lives and becoming relevant for them is far from straightforward. Market-making is a process that seeks intimacies and alliances in the inter-relationality of people, devices and company aims, yet consumers also ignore and even avoid this alignment of aims. Indeed, as McFall and others argue (2017, p. 14), '[m]arkets are contingent upon the

associated action of individuals in attaching, rejecting, complaining, negotiating, reviewing, modifying, hacking, appropriating and refusing market offerings'. Furthermore, market-making efforts might be based on false premises concerning what a customer is or wants. Despite the goals of personalisation, industry models are still largely built on crude segmentation, resulting in people becoming annoyed and irritated when the market fails to view them accurately; 'targeted' advertisements based on general groupings, such as gender and age, can produce an alienating discrepancy between people's sense of self and the advertising machine (Ruckenstein and Granroth 2020, p. 19–20). Personalisation is never merely personal; rather, it creates a relation between a person and a reference group, whereby an ostensibly personalised individual is constituted by combining different features and including and excluding a variety of contexts (Moor and Lury 2018, Lury and Day 2019).

Below, we argue that new insurance technologies need to be approached as situated entities that come into being in complex market relations and regulatory frameworks. The goal of becoming intimately involved in daily lives requires careful alignment work on the part of a company; rather than being a matter of technical choices, it is a process of negotiation and knowledge production. Exploring the case of behaviour-based insurance allows us to study how knowledges, ideas and practices are inscribed on the digital landscape of new insurance technologies. As such, it offers a corrective to both social scientific criticism and hyper-optimistic industry views that assume a linear development in digital insurance.

Insurance and everyday life

Insurance policies are purchased to secure oneself or one's family, at least financially, against unwanted events. Thus, insurance is fundamentally entangled with many of the most intimate aspects of people's lives, including family relations, health and death. These 'private facts' about consumers penetrate and configure insurance markets (McFall 2014) through two intertwined processes. First, customers' lives are part of the product that is sold. Insurance objectifies undesirable events into calculable risks, pooling similar risks together and assigning them a monetary value. Through an insurance contract, customers gain access to a collective of people that covers the risks for the 'pool as a whole' (Lehtonen and Liukko 2015, p. 158). In the underwriting process, calculative devices like health questionnaires are used to determine people's risk status and turn their lives into economic goods (Van Hoyweghen 2014). Along with these more technical ways of encompassing people's lives, insurance, which is not a self-evident need, has a long history of appealing to people's private facts through affective marketing: the reasons for purchasing a policy must be communicated. In many countries, the traditional model for commercial life insurance marketing has been the home visit by an insurance agent who is presented as the customer's trusted friend or ally, someone who is there to help people manage their lives. By getting to know their customers, these 'insurance men' would channel people's private matters into market transactions. Even early life insurance advertising employed images of family life and the possible death of a spouse or a parent (typically the breadwinning father) as an incentive to take out a policy – a practice that continues today – by mobilising people's affection for their loved ones and attaching it to the insurance product. Hence, the insurance business is based on affect: not only images of fear, risks and precaution but also trust and even love are crucial to the marketing machine (Zelizer 1979, O'Malley 2002, Lehtonen 2014, McFall 2014, Sjöblom 2016).

Although insurance marketing employs affective elements, closeness and intimacy do not extend to the customer relationship (Baker 1994), with insurance often regarded as something technical, contractual and cold. Insurance providers tend to see this as problematic. As their only contact with their customers might be the annual bill, they understand that their interaction with the insured is usually rather weak. Thus, improving customer relations through the use of digital tools and the 'turn to lifestyle' (French and Kneale 2009) are deployed as ways to gain a competitive edge in the intense fight for market share. The understanding here is that the traditional aims of the

personal insurance business – establishing frequent positive connections with the insured, making insurance more interesting and improving customer loyalty – could be achieved through digital tools (Falkous and Callaway 2018). Meanwhile, the tech and insurance industries perceive that insurtech solutions could help manage the risks of serious illness and death through manipulating people's behaviour (Falkous and Callaway 2018); finally, the data generated through tracking devices such as wearables and smartphones could be used in actuarial calculations to improve risk selection (McCrea and Farrell 2018, Wiegard et al. 2019).

Fieldwork in insurance

Our case study focuses on two Finnish behaviour-based insurance policies introduced in the latter half of the 2010s that offer 'smart' features only as an additional service; that is, at their core, they are still regular life insurance policies. We call the service providers of these products Company X and Company Z. These companies aim not only to encourage their customers to engage in self-tracking practices but also to gather users' activity data, generated by either wearable devices or smartphones. Insurers then harvest the data with the help of third-party data analytics service providers that produce the mobile applications, gather the data from the customers' devices, analyse it and transmit specific parameters (such as anonymised mass data and data on customers' activity levels) to the insurance companies.

The policies differ from each other in the ways they aim to nudge and reward their clients. While Company X offers a selection of health services provided by its partners as a bonus, Company Z concentrates on financial rewards: customers with high activity levels receive bonuses in their insurance coverage. Although both policies are already available on the market, the companies continue to refine them; the current products are regarded as starting points for developing customer-friendly and responsive insurance policies.

The empirical materials for this paper consist of 16 semi-structured interviews with company employees who work on the products (8 women and 8 men) conducted in May 2018 and February 2019. The data also includes participant observations of insurance professionals' meetings. Our project as a whole also included research on user experiences of the new insurance technologies. The companies were open to a mutually beneficial research design whereby we could collect the data for our project and the companies would gain insights into their customers' experiences. Thus, the data was gathered in collaboration with the insurance companies, which helped us obtain access to a field that is often difficult for academics to enter.

Principal fieldwork for the study was conducted by Maiju Tanninen (MT), who observed and co-operated with the insurance companies for several months, discussing the project and organising the interviews in regular interactions with personnel from Company X in 2017–2018 and Company Z in 2019. During the fieldwork, MT had to strike a balance between the roles of collaborator and independent scholar. The insurance professionals, however, seemed to welcome an outsider's gaze on their operations, as they openly discussed issues involved in the design work and were eager to hear academic perspectives on those matters. The employees interviewed had different professional backgrounds, and their tasks ranged from product design to actuarial calculations. In addition, MT had the opportunity to interview some of the senior managers at each company.

This paper is based on a close reading and thematic analysis of the transcribed interview materials and fieldnotes. The preliminary coding and analysis of the data was conducted manually by MT. During this preliminary analysis, extracts were singled out in which the insurance providers discuss the customer relationship and their strategies for influencing customer behaviour. Then, in the next phase, authors analysed the extracts in joint data sessions. As the insurance providers often had a strikingly uniform way of speaking about issues related to the customer relationship, the authors generally agreed with each other in the analytical process, with each adding details and thematic framings to the other's observations. The final analysis was based on the work conducted in the data sessions and refined during rounds of writing and rewriting. The questions asked of the

data concern the kind of knowledges and practices mobilised to facilitate behavioural change among customers and transform the customer relationship from reactive to proactive. To protect our informants' privacy, we omit the names of the interviewees and, in some examples, do not identify whether they are from Company X or Company Z.

The context of developing behaviour-based insurance

The insurance professionals listed numerous frictions connected to the introduction of behaviour-based policies, noting especially the strict regulation which, in many ways, limits their options. Furthermore, as the market for behaviour-based insurance policies is only starting to emerge, these new products meet with obstacles both inside insurance companies and on the market. In the sections below, we look into regulatory constraints and market frictions as factors that partly constitute the context for product development; this is in contrast to most literature in the field, which sees the putatively linear development of digitalisation as the only relevant context.

Regulatory constraints

The insurance sector is highly regulated in Finland, as national laws, EU directives and the Finnish Financial Supervisory Authority (FIN-FSA) establish the playing field for the industry. Finnish legislation complies with the Solvency II Directive, a general European insurance regulation that harmonised insurance practices across the EU in 2016. Furthermore, anti-discrimination regulations enacted at the EU level regarding, for instance, the use of genomic data (Van Hoyweghen 2007, Liukko 2010) and gender (Rebert and Van Hoyweghen 2015) are mirrored in Finnish regulations. While strict regulation is needed to protect consumer rights and ensure company solvency, it limits the introduction of insurance innovations; for example, Finnish law states that insurance companies cannot engage in practices not directly linked to insurance (The Finnish Insurance Companies Act 2008/521 § 14). Within these limits, however, some predetermined functions can be permitted in what the act calls 'additional activities', which, our informants explained, requires them to be able to demonstrate how the practices of collecting self-tracked data and offering wellness services are related to risk management. Under the regulation, therefore, the law forces insurers to attend to behavioural changes, as they are the only way to justify new operations.

Finland's insurance law and data privacy regulations – principally the European General Data Protection Regulation (GDPR) – control data collection practices. Finnish insurance companies can only gather data that is essential for a specific policy. In our case studies, they used third-party data analytics companies that turn raw data into anonymised mass data or filter specific insights, such as customers' activity scores, from the larger data set. By choosing to collect limited data, the insurers practice a form of self-regulation that they believe decreases customers' suspicion about the product and 'keeps the supervisor [FIN-FSA] off the companies' back', as one interviewee put it.[1]

Although the insurance professionals regard the relatively small data set gathered from the users adequate for the policies' purposes – that is, for developing the product and evaluating customer activities – difficulties remain, especially in regard to the promise of big data. The models for 'big data analysis' suggest that data should no longer be collected but *ingested*; that is, *everything* could be possible data (n = all; Amoore and Piotukh 2015, p. 345). Here, however, the logic is different, since the insurance companies must work with a small and predetermined data set. As the data is limited, policy features relying on real-time analysis of data-streams, such as personalised premiums (Gidaris 2019, Zuboff 2019), might prove to be difficult to create (see also McFall 2019, Meyers and Van Hoyweghen 2020).

Finally, Finnish tax law hinders insurance professionals' efforts to incentivise ostensibly healthy behaviour since it could treat rewards like premium discounts and gift cards as augmenting customers' incomes. Company Z solved this problem by offering bonuses in terms of insurance coverage

instead of lowering premiums. Although our informants believe this kind of 'big jackpot' is more motivating than small premium discounts, some professionals hold the view that immediate rewards are needed to 'keep up the customer's interest'. At the time of the interviews, however, it remained unclear whether providing them would even be possible.

Market frictions

In addition to regulation, the insurance professionals reflected on the challenges to their work posed by the current market situation. As behaviour-based insurance is a new and quite unusual product, the professionals developing it have a dual marketing task: they must sell the idea both inside their companies and on the outside market. Informants from both insurance companies discussed the difficulties of working inside a large corporation. As insurance companies have traditionally been deemed conservative and slow to move (McFall and Moor 2018, p. 198), they are not regarded as the ideal context for developing experimental products. Thus, some insurance professionals recounted that they engage in 'continuous lobbying for the new ideas' inside their own firms.

The insurance professionals estimate that many of the envisioned features of the new policies, such as personalisation and rewards, might be difficult to implement in the existing information infrastructure, describing a path dependency: when one information system is chosen, it is difficult to depart from it, as system updates are both laborious and expensive. An interviewee from the higher management describes the situation as follows:

> The technical experts say that you cannot build such interfaces into the old systems … and we know what massive projects these investments in information systems can be, it [the last update] took years … and the price tag was horrendous.

Interviewees also reflected on the difficulties they face introducing behaviour-based insurance to the market. Both companies have conducted market research which, according to our informants, indicates that consumers are resistant to the idea of behaviour-based insurance. As private life insurance policies are voluntary in Finland, this kind of aversion could be detrimental. Still, the insurers are confident about being able to tackle the issue with 'the right kind of communication'. At the time of the interviews, however, neither company had sold as many policies it had hoped.

Despite the difficulties posed by the regulative framework and the market situation, insurance professionals believe that behaviour-based policies are the right way to move forward. As others have already pointed out (Meyers and Van Hoyweghen 2018), the new policies are seen as a possible way to guarantee the 'insurers' right to underwrite': that is, the right to calculate an actuarially fair price for policies in an increasingly restrictive regulatory context. Thus, digital technologies are believed to alleviate the problem of adverse selection (the imbalance of high-risk individuals to low-risk individuals) by enabling risk selection despite anti-discrimination regulations. This belief was expressed by the CEO of the one company during a staff meeting in the form of a rhetorical question: 'In the future, do we want to insure people who don't engage in self-tracking?' Furthermore, our informants speculated on the possibility that data giants, including Google and Amazon, could enter the insurance market; thus, behaviour-based policies are a means to tackle competition with possible newcomers. Yet, as it stands, regulation not only in Finland but also in the EU would make the data giants' entrance to the European insurance market difficult. The Solvency II Directive requires insurers to base their actuarial calculations on reliable data, and social media, search engine and other indirect behavioural data collected by companies like Google may not qualify, even though insurers already use this kind of 'external data' to support insurance pricing (Jeanningros and McFall 2020, p. 4–5). This does not, however, exclude the possibility that data giants will introduce insurance-like products that bypass current regulatory frameworks, especially the GDPR (see Marelli et al. 2020).

Navigating behavioural change and customer engagement

Inside the insurance business, behavioural modification is regarded as a difficult task. The insurance professionals told us that they had to try to find ways to influence their customers' actions while manoeuvring in a context where the tools for behavioural change are heavily regulated and the very idea of behaviour-based insurance raises suspicion. When asked about managing lifestyles, the professionals emphasised that the aim of the insurance product is not to control the customers 'in the wrong way', as a sales director from Company Z stated:

> Well, let's say that controlling is wrong. It makes it evident that customers are not free to make their own decisions. We think that if they give us information about their activity, then it is our task to encourage them. … It is not that we are trying to control the customers in the wrong way but, rather, to provide them with tips.

Here, the sales director is describing the insurance companies' dual task. They aim to push people to lead healthier lives, as accomplishing this would benefit both the service providers – by lowering their indemnity rates – and the customers, who would be able to enjoy more balanced daily lives, but the insurers must give the impression that customers decide for themselves and are not being manipulated. Therefore, the lifestyle management provided by the companies must be designed in a manner that appeals to consumers' sense of self-determination.

To overcome this tension, the insurance professionals posit behaviour-based policies as platforms that offer a variety of wellness services from which people can choose, as explained by a department manager from Company X:

> This [the wellness services] does not cause any extra costs for the customer. We only expect that the customer would commit to the concept, and even this is not an obligation but, rather, we hope that the customer would commit to it and permit us to use her wellbeing data as [part of] mass data, not even on an individual level. That is the customer's contribution. In return, the customer gets this amazing collection of services and tools with which she can but is not obliged to change her lifestyle, get support, feel better and have a higher quality of life.

In addition to highlighting the 'amazing collection of services and tools' that the policy offers, this extract demonstrates the careful balancing act between control and freedom. The department manager stresses that the policy gives access to a *free, additional service* that does not obligate the customers in any way but provides *an opportunity* to make lifestyle changes. However, the company *expects* and *hopes* that the customers would commit to the policy and give permission to use their self-tracked data, if only in the aggregate.

A similar dynamic appears in the rewards structure of Company Z's policy. Associations with the 'wrong kind of control' are minimised by planning rewards so that they do not appear to punish customers, even those who fail to reach the activity goals. For instance, should customers be inactive or decide to opt out of behaviour-based insurance, they retain the basic coverage level; they lose only the benefit of higher insurance coverage. Of course, this does imply that the inactive customers in fact pay more or receive less coverage and that the basic level is thus punitive. The image, however, differs from models that openly punish customers for lower activity levels.

In the next three sections, we discuss in greater detail insurers' efforts to influence their customers' behaviour and participate in their lives while navigating between regulatory constraints, market realities and the need to appeal to customers' sense of self-determination. More precisely, we examine the different knowledges and practices that the insurance professionals apply in the design process. Their ideas are influenced by, among other things, health recommendations, scientific and popular understandings of (measuring) wellbeing, personalised medicine, behavioural economics, persuasive technology, gamification, service design, positive psychology and (life) coaching. This rather eclectic collection of knowledges and ideas behind strategic thinking is mobilised to solve the problem at hand: facilitating behavioural change without coercing customers. In the design process, bits and pieces of different theories and practices are creatively combined to align the

companies' and customers' practices with each other. We see these as falling into three main operative categories that involve customer relations: *educating*, *incentivising* and *partnering*.

Educating

The insurance professionals envision that behaviour-based policies could influence customers by increasing self-awareness and contributing to health education. Professionals from Company Z wondered whether the customers' lack of knowledge might explain their unhealthy behaviour: in the words of one marketing manager, 'Do people really know enough [about health], or, if they knew the basic stuff, would they neglect these things?' This idea of insurance companies educating people about ostensibly good behaviour is hardly new. Throughout their history, insurance firms have tried to affect people's behaviour with a range of practices, including home visits, advertising and awareness campaigns (cf. Zelizer 1979, O'Malley 2002, Lehtonen 2014, McFall 2014, Sjöblom 2016).

Our informants treated self-tracking practices as the most efficient way for companies to increase health awareness. The insurance professionals believe in the ability of wearable devices to *know* better than people do. They assume that people have false or at least biased ideas about their behaviour and that the devices could reveal 'the hidden truth', as a project leader from Company Z explained:

> We often think that we are doing things, but we might not be doing them. … Just by measuring activity people can reflect on their behaviour and become inspired; for instance, to walk to work as it makes them feel good. And, eventually, it becomes a habit.

The promotion of self-tracking has forcefully communicated the idea that self-knowledge is established with data flows and data analysis (Ruckenstein and Pantzar 2017). Similarly, insurance professionals rely on the notion that self-tracking practices teach people new things about their own actions, which aids in behavioural change. The measuring technologies predominantly target the effects of everyday routines, such as steps taken and periods of inactivity. This kind of narrow focus on repetitive everyday movements is influenced by the limitations of self-tracking devices. The insurers justify their perspective with recent research findings and news articles documenting the hazards of everyday immobility, such as sitting for long periods of time. The focus on inactivity is aligned with the policies' largest potential target group, which professionals from both companies define as 'people who are interested in improving their health but [are] not yet doing much'.

In addition to activity tracking, the insurance professionals envision how other aspects of wellbeing, such as eating habits and sleep, could be included in self-tracking projects. Both companies had piloted more encompassing services. For instance, apps that calculate daily calorie intake based on manually recorded meals were tested, but they had failed to find satisfactory solutions when fieldwork ended; to name a few difficulties, reliably recording what was eaten turned out to be difficult, the systems were too full of bugs and, more generally, the communications between health-tech start-ups and established insurance companies concerning the different partners' varying needs were not always smooth. Thus, for the time being, the policies use more traditional health education, including sending daily bulletins about wellbeing-related issues. This information is delivered by the insurance companies' partners, such as the Finnish Society for Medicine and various health tech start-up companies.

The insurers' faith in the transformative power of new technologies and the data they generate could be seen as a *dataistic* stance on self-tracking devices (van Dijck 2014), effectively executed with sensor technology and the implementation of feedback loops (Ruckenstein and Pantzar 2017). Feedback loops can incorporate a variety of everyday practices, including walking, exercising, sleeping and eating; the idea is that consumers obtain information in a format that is easily comprehensible and actionable. In this process, customers are invited to establish a relationship with the device so that it could assist or enhance their health management. However, these educational endeavours treat people as free actors – or rational 'econs' (Thaler and Sunstein 2009) –

who have the ability to choose the best option when enough information is available. Thus, the aim of influencing behaviour by increasing customers' knowledge relies on their self-determination. Some insurers, however, regard educational measures as inadequate and feel that other strategies are needed to *motivate* people, a theme we turn to next.

Incentivising

In addition to educating endeavours, the insurance professionals we interviewed aim to influence consumer behaviour by offering financial *incentives* and creating a choice architecture with behavioural *nudges*. Schüll (2016, p. 328) describes the nudge as a 'curious mechanism' that both presupposes and pushes against personal autonomy, observing that 'it assumes a choosing subject, but one who is constitutionally ill equipped to make rational, healthy choices'. Here, people's lack of knowledge is not regarded as the reason for their poor choices, but rather the way in which the things that motivate them are turned into available choices.

The companies' views of financial incentives aimed at affecting customers' motivation differ slightly from each other. The professionals from Company Z think that the self-tracked data offers an 'objective' way to determine bonuses for insurance coverage. They regard this as an issue of asymmetric information and moral hazard; without ostensibly objective measures, people might exaggerate their activities and undeservingly gain benefits from a policy. A similar focus on 'objective' data came up, for instance, in the case of a Belgian pay-as-you-drive car insurance experiment in which 'real' evidence on the effectiveness of the digital tools needed to be provided to fulfil regulatory requirements (Meyers and Van Hoyweghen 2020). This approach emphasises the role of financial rewards and treats bonuses as a policy's main motivating element. Like the strategy of educating people, the incentivising approach relies on customers' self-determination, with customers imagined as able and willing to change their behaviour if 'better' choices reward them. Thus, the notions of choice and freedom are at the core of Company Z's policy.

In contrast, Company X professionals maintain that self-tracked data could in fact entail a moral hazard as people could cheat the devices by, for instance, attaching the sensors to power drills or pets. At the time of the interviews, the policy's rewards structure was not yet operational, but the professionals discussed linking rewards to other measures like accomplishing daily tasks or following behavioural change programmes. A service designer from Company X put it as follows:

> We have thought about gamification, as we would like to offer the customers a chance to earn premium discounts. This would mean that you should perform some tricks during the year or the period of insurance, things that are related to your wellbeing. We are not demanding anything crazy. We have planned some puzzles or challenges of the day so that every day you would get a new little task. And eventually, when you check your task daily you will get used to the fact that there are always some brain teasers available: 'solve this problem or walk or do 10 squats or whatever'.

The service designer envisions a model with addictive and gamified 'daily little tasks' that people would become eager to accomplish. The incentivising strategy is defined by the idea that the goals of the people and those of the motivating service are seamlessly aligned. As Pols *et al.* argue (2019, p. 101), this kind of alignment is crucial for frictionless engagement with technologies, as it provides tools for 'self-induced nudging into self-prioritised activities'. In this case, the behavioural change relies on (sometimes unnoticed) cues and design features, such as small rewards for reaching goals, or buzzing from the activity wristband that emphasises that a certain behaviour is desirable.

This kind of 'libertarian paternalism', internalised by insurance professionals, claims to preserve the core value of individual autonomy. As remarked above, Schüll (2016) describes the subjectivity enacted through nudging devices in a paradoxical way as a 'passive, choosing self'. In other words, people are imagined to be willing to engage actively with the device, but after that choice, they are expected to follow orders.

Yet, the insurance professionals from both companies are not entirely convinced of the transformative effect of nudges. This is especially apparent when, reflecting on their own wearable device use, they note the irritation they feel about the interruptive and pushy elements that are supposed to motivate them as users. These accounts of frustration point to the fact that the nudges are too intrusive; yet at the same time, they seem to be too weak to create genuine behavioural change since the user can simply choose to switch them off. Thus, relying simply on this type of nudge is not seen as a commercially viable strategy or at least the only strategy to be used.

Partnering

In addition to the strategies of educating and incentivising, the companies agree that behavioural change is achieved through personalised services and rejuvenated customer relations. The insurers envision that, with active participation in their customers' daily lives, the policies would encourage people to adopt healthier habits, thereby preventing the occurrence of costly events, as a service designer from Company X explained:

> I think the best possible outcome would be for this [behaviour-based insurance] to change the approach from reactive to proactive. Now, insurance is necessary only when something happens. But here the approach is different. We are thinking about how we could prevent bad things from happening. The best-case scenario is that the customers could think of us as a partner who stands by their side throughout their lives.

The new customer *partnership* is envisioned as succeeding at least partly on the basis of the policy features discussed: self-tracking practices, financial incentives and nudges. The service providers, however, also envision an intimacy beyond the scope of these features. Professionals from Company X share a desire to accompany their customers 'throughout their lives' and want to be able to repeatedly and regularly 'surprise the customer in a positive way'. To create *a relevant customer relationship,* the insurers aim to develop personalised services that *target the right help at the right moment*, as a Company X service designer speculated:

> If we tell you that we are collecting your data to give you personalised tips and advice, are we then able to react to the changes in people's lives? For instance, if there are times when you are sleeping poorly, can we really react to them, like, 'Hey, there's something going on in your life, as you are sleeping badly; take this advice'.

The insurance providers have visions of becoming permanent participants in their customers' lives and providing positive and relevant feedback at all times. Once self-tracked data or customers' choices become visible through the app, the companies could recognise wellbeing deficiencies and then provide a response through personalised feeds. This vision, however, is difficult to realise. Since the policies are so new, the service providers do not have much data to work with and, at the time of the interviews, it had only started to become apparent to them how much work deep personalisation would require.

In addition to personalising content, the insurance professionals highlight the importance of adapting the tone of a policy to customers' different needs by mapping them onto design personas, a tool commonly used in service design. For instance, when helping a 'busy working mother' to reach her activity goals, the app requires an encouraging, empathetic and recovery-focused voice. In contrast, an 'engineer-like person' is more likely to simply monitor their data and to expect straightforward feedback. Yet, it remained unclear how appropriate these (often stereotypical) personas were when compared to real customers and how they could be best deployed in service development. Indeed, it is striking how far from the promise of individualisation the existing behavioural insurance products appear to be (Meyers and Hoyweghen 2018); instead of achieving personalisation and fine-grained risk categorisation, they only seem to be able come up with relatively crude stereotypes. Until the kind of targeted profiling that service designers and insurance companies dream about is available, it is believed that the policy's general voice should simply be upbeat, as

a marketing manager from Company Z stated: 'The communications need to be encouraging. The tone of voice and every such thing matters'.

Finally, the insurers' operations are inspired by current trends in wellness, positive psychology and (life) coaching. For instance, informants from both companies frequently used the Finnish coaching term *oivalluttaa*. This expression is not easy to translate into English, but it has to do with the act of making customers become aware of their emerging capabilities in a given situation: 'the point is help people to see the possibilities [*oivalluttaa*], not so much coercing them or requiring anything'. Although its definition remains slippery, *oivalluttaa* refers to the companies' information-intensive practices, such as self-tracking and sharing health advice, although it is also used to describe the insurers' aim to create a space where they can act as a life coach or a personal trainer, providing tools that help customers reflect on their own behaviour and achieve self-control. Behaviour-based life insurance products, however, differ from coaching as they entail normative ideas of desired behaviour (Ericson *et al.* 2003, p. 246). The goal is for customers to adhere to set standards for healthy behaviour, deriving either from well-established authorities or from less-defined sources, including the partnering health start-ups and wearable device manufacturers.

Compared to previously mentioned strategies using the idea of individual autonomy, the insurance professionals seem to take a more relational stance: they envision that behavioural change could be achieved by creating a partnership that would allow their customers to enhance their autonomy through reflecting and learning. In practice, however, the insurers' ideas appear to leave little room for consumers' independent reflection and action; rather, the company is imagined as a kind of nanny that rushes to take care of their needs. Unless customers see how they personally benefit from a service, the company's closeness could easily be experienced as intrusive and creepy (Lupton and Michael 2017, p. 267). It is not far-fetched to surmise that, for the recipients, this kind of attentiveness could soon feel invasive and alienating.

Discussion

We have demonstrated how the insurance professionals developing behaviour-based insurance products aim to manipulate people's behaviour and participate in their everyday lives. We have categorised different measures which strive to align the companies' targets with their customers' lives as educating, incentivising and partnering strategies. The means of educating, such as self-tracking practices, aim to increase the customers' knowledge of their health, the incentivising features work to motivate the customers with financial rewards and micronudges, and the partnering tools are envisioned as providing emotional support and creating a relevant relationship between the customer and the insurance company. The insurers emphasise that they respect personal autonomy, that their objective is not to force consumers to do anything and that they are not seeking to provide ready-made answers; rather, they merely want to offer tools for health management. Behaviour-based policies are thus framed as platforms that the customers can use in their own efforts to improve lives.

The tools for supporting behavioural change and customer engagement are proving complicated to develop, as the policies' strategies of educating, incentivising and partnering replicate some common false premises. For instance, the insurers recognise the intrusiveness and annoyance of micronudges and do not perceive them as adequate solutions for customer engagement; furthermore, it is a struggle to tailor the products to each customer's needs and maintain relevant relationships with each customer. Our case underscores the impossibility of truly personalising products: the personalised 'you' is always related to others and, as the insurers' design personas demonstrate, often relies on rather crude groupings and combinations of features (Moor and Lury 2018, Ruckenstein and Granroth 2020).

The most profound false premise, however, is the idea of the continuous use of tracking devices. Our interviewees reported gaps in the data they gather, which are caused by 'missing' customers who have stopped or never started tracking their activity, resulting in a 'brokenness' of the data

(Pink *et al.* 2018) that could hinder future data analysis or even prevent it altogether. Data analysis deals poorly with no data or data that does not reveal its biases; therefore, the companies' objective is to have the customers use the devices regularly and over the long term. Furthermore, continuous engagement is believed to have a positive effect on the customers' wellbeing and on the customer relationship. However, while expectation of uninterrupted use is common among device developers and the institutions employing them, the tendency to engage in episodic use is an *integral part* of self-tracking practices, as Gorm and Shklovski (2019) have shown; thus, the companies' goals do not align with real-world usage. Instead of focusing on fixing a policy's bug or finding the right combination of education, incentives and partnering, the insurers may be forced to acknowledge that continuous self-tracking is not a realistic goal.

Conclusion

Insurers think that insurtech solutions have the potential to transform the insurance business: digital technologies could offer new ways of being present in customers' lives and managing and calculating risk. This potential for market disruption is also recognised in critical analyses that claim that the new technologies could lead to intensified dataveillance and management of the lives of those taking out insurance policies. Market developments are, however, never universal or linear developments, and it is vital not to embrace techno-deterministic notions of technologised futures. Rather than confirming a digital disruption, our case points towards continuities in the way the insurance business approaches – and will approach in the near term – customer's lives and manages and calculates risks. The strategies of educating, incentivising and partnering build on established insurance practices. Insurers have long engaged in various educational measures that have sought to reduce the occurrence of insured events through increasing customers' risk awareness. As insurance premiums vary between insured according to their risk status, insurance as we know it already differentiates prices for customers. Thus, while additional rewards might make this kind of incentivising structure more visible, they are unlikely to revolutionise insurance pricing (McFall 2019).

The most distinctive disruptive feature of the new policy is the technological mediation of the customer relationship. As customers are invited to allow self-tracking devices to scan, record and report their lives, the relationship between company and customer transforms. The idea of being present in the customers' lives is deeply rooted in the insurance business: for instance, to achieve industry goals of collecting premiums and selling more insurance, doorstep agents were supposed to act as the customer's friends and allies. Yet, it does make a difference that the means of mediation is new. While marketing materials have traditionally been used to persuade people to trust the insurance agent, consumers are now urged to invite digital recording tools into their lives. In light of our research, the possibility of sharing with the insurer intimate details about life has limited appeal, but it does open a new page for the insurance business.

Our empirical cases emphasise that insurance comes into being as a specific technology with its own history, principles and regulations, aspects that are often neglected by critical research (Tanninen 2020). At least in the Finnish cases, the insurers' motivations for designing behaviour-based policies are much more varied – and cautious − than critical analyses suppose. Insurers are not merely striving to create a controlling surveillance system to punish and exclude people who have a higher risk status. On the contrary, their main goals are to engage their customers, to appear not merely up to date but even path-breaking in regard to technology and the tools used for developing customer relationships and to prepare for future markets. That being said, the critical voices rightly point out that behaviour-based schemes have the potential for discrimination and dataveillance. Empirical research, however, is needed both to refine this criticism and to recognise which problematic practices are already in place, which are in the realm of possibilities and which exist merely as speculations born out of techno-deterministic hype.

Note

1. Even though the insurance companies do not access much of the data and an insured's identity is by law strictly confidential, using the product requires the customers to enter into a rather messy data relationship. It might not be clear to customers that their data is circulated through the data analytics companies and the companies that manufacture and produce the wearable devices and the wellbeing services – and, perhaps, used for these companies' own purposes. This exemplifies the inadequacies of the GDPR in regulating emerging big data practices and the shortcomings of the notice-and-consent model (see Marelli et al. 2020).

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