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Emotions and technology in pension service interactions:

Taking stock and moving forward

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Abstract

Pension service interactions, such as call center or email contact between pension provider and pension plan participant, are inherently social interactions. As such they can be emotionally charged, particularly since pension services lie at the heart of a person's financial well-being. A negative experience with a pension provider can result in negative sentiments by pension plan participants.
These may then constitute a barrier to effective and efficient pension service interaction, thereby hindering optimal outcomes for participants, employees, and their employers. This design paper discusses the role of emotions within pension service interactions and how this role may change in the light of current and future technological advances. Specifically, we (1) discuss the current status of pension service interactions, (2) shed light on how emotions and technology impact these interactions, and (3) discuss how technology can help to create better pension service interactions. Within the context of these interactions, we can conclude that the human aspect is here to stay (at least for the near future) and that technology can improve human interaction, instead of replacing it.

Samenvatting

Interacties tussen pensioenuitvoerder en deelnemers, zoals via een callcenter of e-mailcontact, zijn sociale interacties. Als zodanig kunnen ze een emotionele lading hebben, vooral omdat pensioenen een cruciale bijdrage leveren aan het persoonlijk financieel welzijn. Negatieve ervaringen met de pensioenuitvoerder kunnen resulteren in negatieve emoties van deelnemers, en die kunnen vervolgens een belemmering vormen voor effectieve en efficiënte dienstverlening op het gebied van pensioenen en daarmee optimale resultaten voor de deelnemer, werknemers van de pensioenuitvoerder en de pensioenuitvoerder zelf verhinderen. Deze design paper (1) bespreekt de stand van zaken op het gebied van sociale interacties binnen de dienstverlening op het gebied van pensioenen, (2) werpt licht op hoe emoties en technologie invloed hebben op de dienstverlening, en (3) bespreekt hoe technologie kan helpen om deze dienstverlening te verbeteren. Voor dienstverlening op het gebied van pensioenen kunnen we concluderen dat technologie menselijke interacties voorlopig niet gaat vervangen, maar een belangrijke bijdrage kan leveren om deze te verbeteren.

1. Introduction

Governments, pension providers, and other entities in the financial services industry are increasingly interested in improving the communication about pensions with individuals. In the Netherlands, a fierce political debate is underway about reforming the country's pension systems. While the Dutch pension system has been ranked among the best worldwide (Mercer, 2018), low real growth and interest rates have weakened the financial position of second pillar occupational pension funds. Furthermore, the Dutch population is aging rapidly, making substantial pension reform necessary (Gérard, 2018). For a review of the Dutch pension system, we refer to Knoef et al. (2015). With pension reforms on the horizon, it is crucial that pension plan participants are well informed about their personal pension situation and the options that they have. Pension service interactions between pension administrators and pension plan participants (such as by email, call center, or chat) are essential within this context.

Emotions play a crucial role in interpersonal communication in general and in emotionally charged topics such as financial services in particular (Park and Sela, 2017). First, service agents must anticipate, and regulate the emotions of pension participants. However, to date we know little about how exactly emotions influence pension services. Second, service agents must also control and regulate their own emotions. Eventually, effective handling of customer emotions can lead to better customer service, better catering to the individual needs of pension participants, and holding onto a healthier and more satisfied workforce.

With technological advancements and more powerful artificial intelligence (AI), new opportunities arise that have the potential to transform pension service interactions (PSI). Until now, the focus of these new technologies has mainly been on the automation of simple tasks, such that technology and people would work in parallel in mutually exclusive ways. Automation of pension administration is an example of this. However, state-of-the-art technologies allow us to go beyond replacing simple human tasks and to augment pension service agents, thus achieving a true symbiosis of people and technology. Such a best-of-both-worlds approach has the potential of innovating the pension services sphere and thereby leading to a healthier and happier workforce and ultimately more satisfied pension participants. However, such new technologies bring about not just opportunities but also challenges. Pension providers must understand both in order to be able to take effective decisions. In line with this development, institutions such as the OECD and the Dutch Authority for the Financial Markets (AFM) have published reports with starting guidelines on topics such as (semi-)automatic asset management and robo-advice (e.g. OECD 2017, AFM 2018). The OECD (2017) lists six different ways in which it expects technology to impact the pension sector, including the internal processes of pension providers (e.g. scheme management), business models, additional risks (e.g. with regards to data security and privacy), regulatory approaches towards fintech, and additional challenges (e.g. organizational culture at pension providers). We focus on the OECD's first point, namely using technology to enhance interactions with pension members.

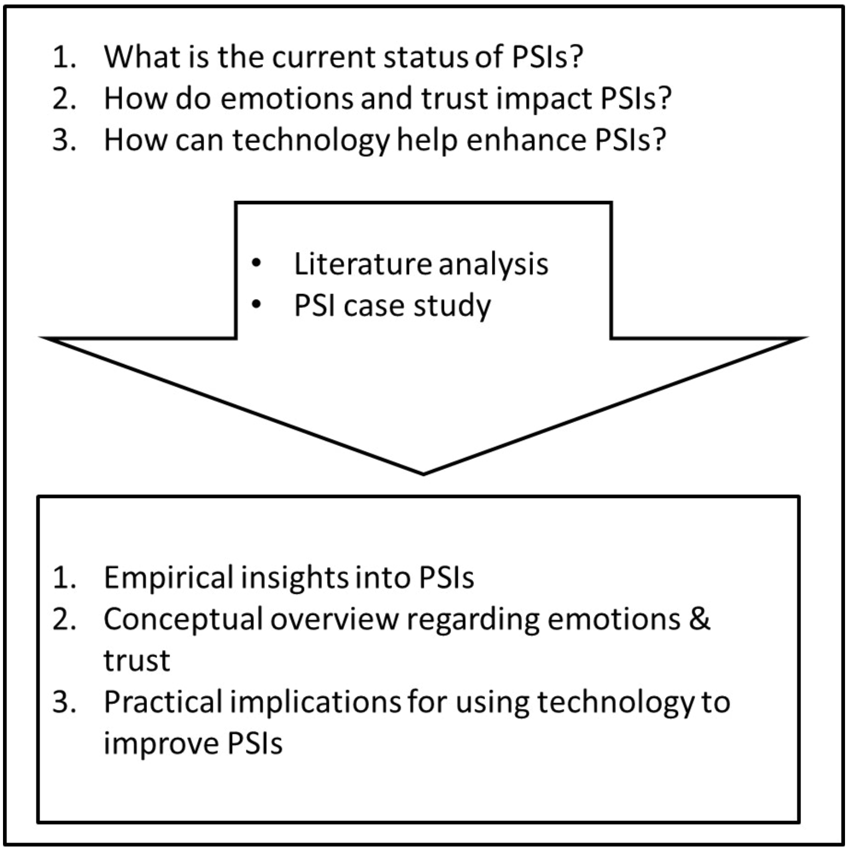
An example of an AI tool that replaces human involvement is Pefin. This is an AI-based financial planning tool that is applied in the United States. Drawing from banking data of clients, the tool develops a financial savings and investment plan which is tailored to the client's wishes and historical spending behavior (Pefin, 2019). Compared to a human financial advisor, the tool offers advice at much lower cost and continuously compares and updates the service offered. Hence, the service is much more dynamic compared to a traditional static financial plan. While robo-advisors give investment advice based on the risk level selected by the client, the AI tool advises the client on this risk level, too.

An example, on the other hand, for enhancement of human services rather than their replacement is the Voice Emotion Recognition Assistant (VERA, 2018). This tool was developed in a project which has been spearheaded by the Open University of the Netherlands in a co-creative effort together with experts and practitioners in the pension services industry. VERA uses artificial intelligence to detect a set of basic emotions (Ekman, Friesen and Ellsworth, 2013) within pension service interactions. This emotion detection operates in near real-time and gives pension service agents immediate feedback on their emotion regulation success. Using the tool, pension service agents see the current emotion display of the caller in the form of an emoticon, which is updated every three seconds. This information provides the basis for potential enhancement of pension service interactions in numerous ways. For instance, it may facilitate the work of pension service agents. On the one hand, agents need to invest less cognitive resources in perceiving the emotions of the counterparty, allowing them to focus more on the context of the conversation. On the other hand, they get immediate feedback on how their information is perceived and whether their emotion regulation efforts are successful. Additional potential benefits of an automated voice emotion recognition AI go even beyond the immediate effects within pension service interactions (e.g., systematic agent training, advanced CRM tools).

Within this paper, we aim to (1) describe the current status of pension service interactions, (2) discuss the role of emotions and trust within pension service interactions, with a particular focus on personal voice-to-voice communication, and

(3) elaborate on best practices with regard to the use of technology for enhancement of pension service interactions. To answer these research questions, we conduct a thorough literature analysis, complemented by a case study of Dutch pension plan participants.

Figure 1. Paper outline


1. What is the current status of PSIs?
2. How do emotions and trust impact PSIs?
3. How can technology help enhance PSIs?
• Literature analysis
• PSI case study
1. Empirical insights into PSIs
2. Conceptual overview regarding emotions & trust
3. Practical implications for using technology to improve PSIs

2. Current status of pension service interactions

Even with an occupational pension fund, which is often obligatory in the Netherlands, there is a need for pension communication: on the one hand, pension providers have a duty of care towards their participants, to support them in checking whether the way their pension develops fits their personal needs; on the other hand, when pension plan participants change jobs, get divorced, or encounter a change in their pension plan (which will be more likely in the future, given the upcoming reforms), they need up-to-date information on their current financial status and potential steps for action. The Dutch government passed the first law on pension communication in 2005, requiring pension providers to provide their participants with a yearly pension overview, and it enacted further regulations in 2011 and 2015. The goal of pension communication was defined as enabling pension plan participants "to know how much pension they can expect to get, to verify whether it is sufficient, and to be aware of the risks of the pension arrangement" (see Debets, Prast, Rossi and Van Soest, 2018).

Communication about pensions can take different forms, ranging from small information sessions at the participant's employer to large awareness campaigns by the government. Most of the communication in the Netherlands is about the building of pension in the second pillar and is arranged by the pension providers such as pension funds or insurance companies (Debets et al., 2018). Participants now receive all pension communication via email, but they can opt out and still receive it via regular mail. As defined by Debets et al. (2018), pension communication can either be general and focused on increasing pension literacy and awareness, or it can be specific and personalized when meant to inform participants about their own situation. In that sense, communication goes two ways: on the one hand, the pension provider needs to take an active role since the provision of communication is regulated by law (by the Dutch "Wet pensioencommunicatie", the Pension Communications Act) and includes, for example, sending an annual pension statement; on the other hand, participants can take personal action and search for information about their pension. Communication is interactive only when participants actively get in touch with their pension service providers. In line with this, Van Schie, Donkers and Dellaert (2012) differentiate between goal-directed and ongoing retirement savings search: participants may either want information with regard to a specific situation (such as which investment choices to make), or they may repeatedly look at their accumulated pension savings. Especially in goal-directed search, participants reach out to the provider in live chats or via call centers.

While previous papers have focused on improvement of static general pension communication such as the annual statement (e.g. Elling and Lentz, 2018) or email newsletters (Eberhardt et al., 2017), in the underlying paper we particularly focus on pension service interactions. An important discriminating characteristic of this type of pension communication is that participants directly interact with the pension communication service provider. From direct communication in particular we can reliably retrieve immediate and unfiltered feelings and perceptions of pension participants. How participants perceive the pension service interaction is often considered equally important as its content (personal communication, APG). Thus, while it is important to answer a request or question of a participant and provide relevant insights, it is also crucial to manage their emotions (e.g., soothing their anger, calming them down) and to have them finish the interaction in a positive emotional state.

However, measuring the overall success of pension communication remains a challenge. On a larger scale, the Dutch consumer information portal of the Ministry of Finance, ‘Wijzer in Geldzaken’, developed a pension awareness index and has conducted a survey among a representative sample of the Dutch working population every year since 2009 to understand the effectiveness of pension communication initiatives. Dutch respondents have continuously shown very low levels of pension knowledge and awareness. For example, four out of ten respondents do not know in which plan they are building up a pension (Wijzer in Geldzaken, 2014). Since participants with higher pension knowledge show significantly higher levels of conscious decision-making in the pension sphere (Debets et al., 2018), it is essential to communicate with participants and to understand whether the communication leads to a better understanding.

A recent report by Capita indicated that about 60% of pension providers do not measure the success of their pension communication campaigns (Capita, 2016). In a report on pension communication, the OECD incorporates several monitoring and evaluation measures of campaigns conducted worldwide. These measures include analysis of calls to call centers, website traffic, enrollment rates, and research methods such as online surveys, face-to-face interviews, and focus group discussions with main outcome variables being the knowledge, emotional acceptance, intended behavior, attitudes, and awareness levels of individuals after receiving campaign communication (OECD, 2013). Under the umbrella of the Dutch initiative CentiQ (Wijzer in Geldzaken), a couple of pension awareness campaigns have been initiated in the past several years. An example is the “pensioenkijker” (pension viewer), where the evaluation measure of the campaign was the number of website hits of pensioenkijker.nl, an information site that is being replaced by “mijnpensioenoverzicht.nl” (my pension overview). Other evaluation measures for Wijzer in Geldzaken include the number of publications on household finance matters in the media and qualitative evaluations by project members from interviews (B&A group, 2009).

Most of today's interpersonal pension communication still happens via the phone. A particular advantage of this kind of pension service interaction is that participants' feelings, attitudes, and intentions toward the pension service provider can be assessed directly on an individual participant level. First and foremost, individuals appreciate two main aspects in such voice-to-voice service interactions: the social contact and the help by a domain expert (Firth, Emmison and Baker, 2005).

In one of the few studies on pension service interactions, Nell, Lentz, Pander Maat and Koole (2015) analyzed 77 helpdesk calls to understand the role that call centers play within the multichannel pension communication environment. In their study, pension plan participants called mainly because of a communication event (that is, messages received from the pension fund on its website or in an email or letter), while a lesser number called for a life event. In both of these categories, participants called with a financial or administrative focus (such as a question about benefits or about personal data adjustment, respectively). In many cases, the transcribed conversations showed that pension jargon was being used by the domain expert, resulting in confusion on the part of the participant. Negative emotions and annoyance were also reported when the call center agent failed to show empathy towards the participant.

Nell et al. (2015) conclude that call centers are basically used as repair mechanisms, fixing the leaks that pension communication created. To improve communication and prevent increased traffic in call centers, the authors suggest that reasons for calling should be evaluated, preferably with due consideration of the needs of different demographic groups, and in that way to ultimately redesign unclear and or incorrect information. Fact is that personal contact via the phone as communication channel is mainly initiated by pension plan participants, and that the reason for getting in touch is usually a momentary issue or question. However, clearly direct interactions assume a prominent role in pension communication, and it is doubtful that optimized pension communication would be possible without direct social contact. After all, the telephone allows pension service providers to cater to the emotional needs of individual participants.

While both the social element and the competence element are implicitly reflected in interaction level KPIs, such as the Net Promoter Score (NPS), until now they are usually not assessed, analyzed, or managed individually by pension service providers. At the moment, NPS is the closest proxy of how pension participants experience the pension service interaction and as such, it is the most crucial performance indicator on the interaction level. Sometimes attempts are made to bring the NPS closer to these elementary social- and competence-based interaction components by assessing them separately as transactional NPS and relational NPS.

In general, retention of clients (in this case, the employers of participants) and fulfilment of the mission of contributing to participants' financial well-being are the main drivers for using NPS (personal communication, Aegon). However, capturing these KPIs is costly and potentially biased. In addition, NPS does not fully match with the current set-up of the Dutch pension system. While NPS is inherently market-oriented, pension participants are automatically enrolled and do not have a choice of switching to a different service provider. As such, the hypothetical option of recommending the pension service to friends or colleagues is not a particularly well-suited tool, which may explain why Dutch pension service providers traditionally do not score high on NPS. Nonetheless, with technological advancements it may be possible to automate the assessment of interaction level KPIs and at the same time bring them closer to the interaction-level information that lies at the heart of participants' intentions. This is discussed in the next section.

3. The role of emotions

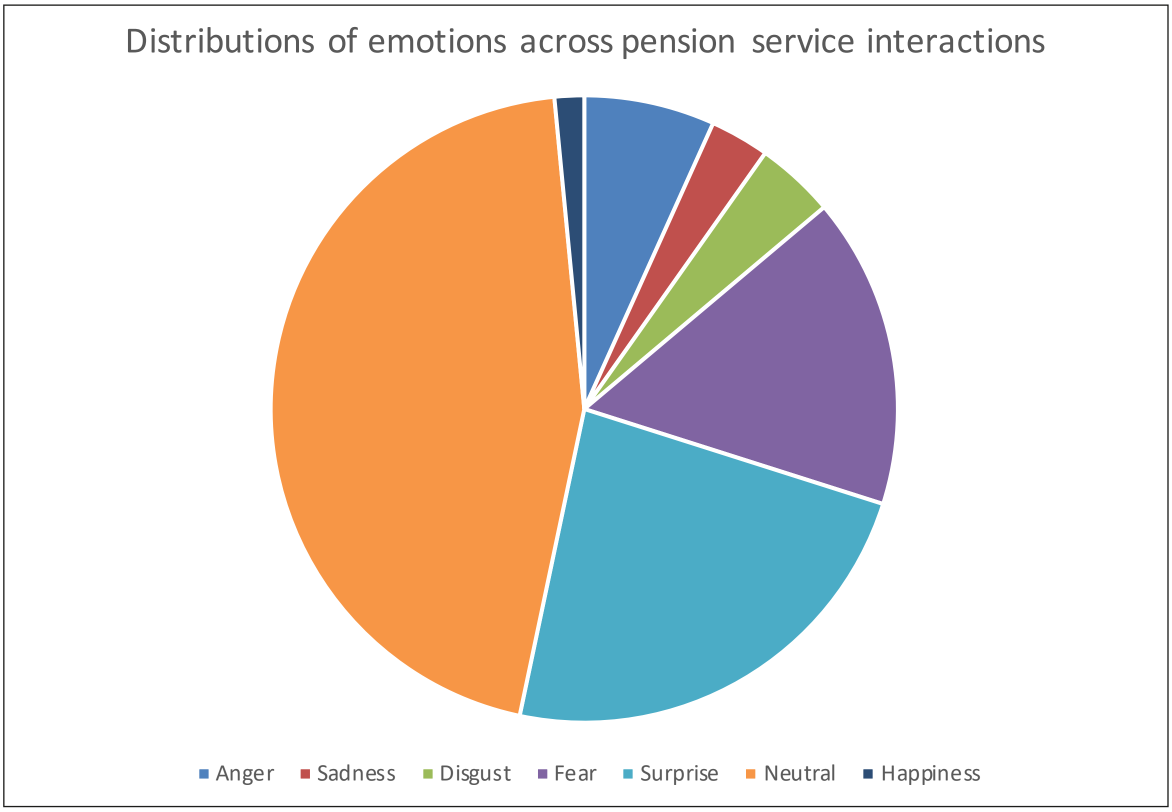
Emotions play a significant role in social interactions in general and in pension service interactions in particular, since pension services lie at the heart of long-term financial well-being. Pension reforms are often met with strong negative emotions. Van Solinge and Henkens (2017), for example, in their analysis of emotions with regard to the Dutch national reform to increase the retirement age, show that especially older workers in lower social classes express high levels of worry and anger. The television documentary series "Zwarte Zwanen" ("Black Swans") by Cees Grimbergen, in reporting on administrative activities by Dutch pension providers and companies within the financial sector, encountered much discussion in the online and offline media (Maxvandaag, 2019) that highlighted the strong emotions that people have with regards to pension plans and the related administration.

There is no consensus in the literature on what constitutes an emotion. However, for this paper we adopt the definition of the American Psychological Association (APA). It defines emotion as "a complex reaction pattern, involving experiential, behavioral, and physiological elements, by which individual attempts to deal with a personally significant matter or event" (APA, 2020). Previous studies suggest that there is a set of six distinct and universal basic emotions that have been formed throughout human evolution (Ekman and Cordaro, 2011). These emotions are anger, fear, disgust, surprise, sadness, and happiness.

Before diving into the literature relevant to the role of emotions in pension service interactions, we will first consider this set of basic emotions among a sample of Dutch pension plan participants in pension service interactions. We illustrate the role of emotions in pension service interactions in a random sample of 786 pension service calls from a large Dutch pension provider. This particular pension fund operates a pension service call center that responds to participants' questions and concerns on all pension-related matters. On average, this call center receives about 4,000 calls per week that are handled by 50 pension service agents. At any point in time, 36 pension service agents answer calls simultaneously.

For the set of 786 pension service interactions that together constitute the basis for our illustration, the average call duration was 10.8 minutes, with a range of 0.2 to 30.2 minutes. Right after each call, the caller's emotions at the start of the call were logged by one of 21 different pension service agents, who took the call. In particular, service agents selected the predominant emotion displayed by the participant from the set of six basic emotions. As such, even when a participant displayed several emotions, the agent would select the dominant one. If the agent was unsure of whether or

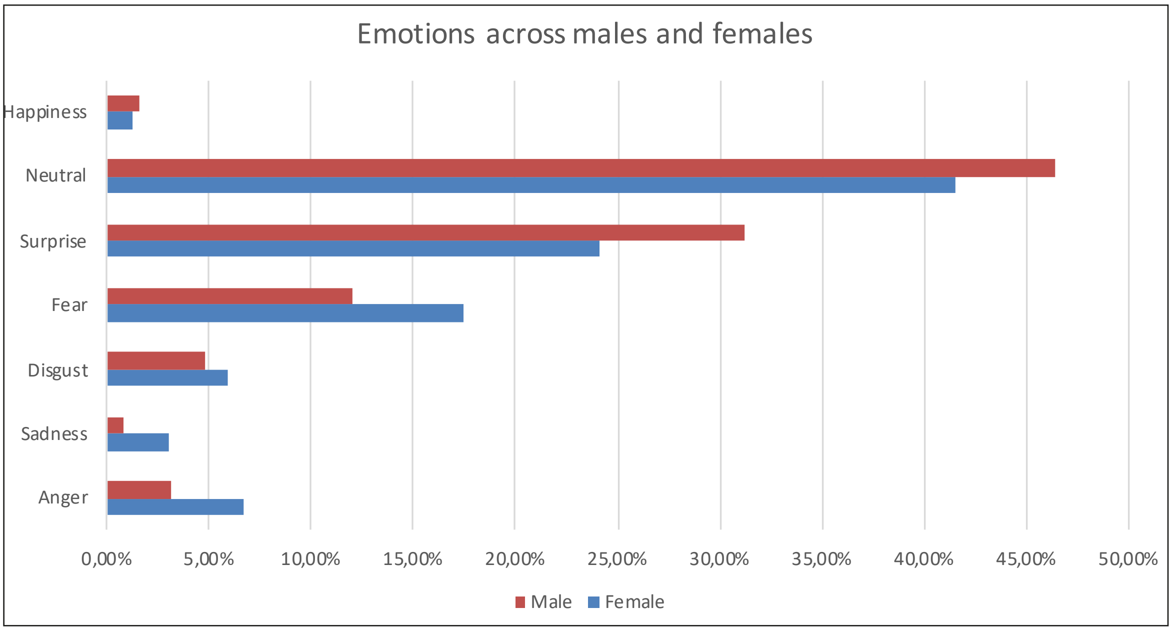
Figure 2. Emotions in pension service interactions



what emotion was expressed, such agent had the option of choosing "neutral." In addition, we retrieved and matched the corresponding customer relationship management (CRM) data, in order to relate the emotions to pension participant and call characteristics.

Most of the calls (76%) were about an information request (e.g., participants calling because their partner passed away). As to the valence of emotions that participants experienced when they started a call, 30% of them displayed some form of negative emotion and only 2% displayed positive emotions (with 68% displaying ambiguous emotions, such as surprise or not clearly identifiable emotions). An overview of all six basic emotions (plus neutral) is depicted in Figure 2. While it becomes clear from this sample that negative emotions are an issue in about one third of pension service interactions, positive emotions are rare at the start of an interaction. Presumably, pension service agents have to earn this by giving a satisfactory answer or by soothing or regulating a caller's emotions. We then broke down these statistics in order to compare the displayed emotions across gender among all pension service interactions for which we retrieved CRM data (N=515), as shown in Figure 3. Overall, the descriptives show that within this sample, more female participants tended to display negative emotions than male participants.

Figure 3. Gender and emotions in pension service interactions



We take these statistics as a starting point to identify the role of emotions in pension service interactions within the academic literature. To this end we structure our literature analysis into three parts: 1) we shed light on the drivers of negative customer emotion expressions in service interactions in general, 2) we identify the consequences of negative customer emotion expressions in a call center service context relevant to pension service interactions, and finally 3) we uncover service agent coping strategies in the context of negative customer emotion expressions.

Pension service interactions are inherently social interactions between two people. In particular the specific reason why a participant gets in touch with a pension service provider, as well as the specific context of pension service with its immediate implications on financial well-being, gives rise to partly tense and emotionally charged pension service interactions. Here, especially negative emotion expressions may constitute an impediment to smooth and effective pension service interactions with optimal customer, employee and organizational outcomes. In the following chapter we will discuss the drivers of such negative emotion expressions in service interactions relevant to the pension service context, as well as individual and organizational implications for pension service agents and pension providers, respectively.

Drivers of negative emotion expressions on the part of pension plan participants may be categorized into the following five factors: the nature of the relationship between participants and the pension service provider, emotional and cognitive factors, instrumental goals, personal characteristics, and situational factors. An overview of these factors, along with examples from the literature, is presented in Table 1.

Table 1. Drivers of negative customer emotion expressions in service interactions

Driver	Explanation	Reference
Nature of the relationship between the service provider and the customer		
Unequal power of the relationship between customer and service agent	'Customer is king' mentality	Grandey, Kern and Frone, 2007; Yagil, 2008, Bishop et al., 2005; Ben-Zur and Yagil, 2005
Short duration of relationship	Short-term, episodic (related to specific pension service agent)	Skarlicki, van Jaarsveld and Walker, 2008
Lack of customer – employee rapport	Accent-related biases	Harris, 2012; Wang et al., 2012
Legitimizing factors	Norms of informality, ideology of accommodation ("making customer feel welcome")	Yagil, 2008
Cognitive and emotional factors		
Cognitive	Violation of perceived justice, low risk perception	Fisk et al., 2010
Emotional	Dissatisfaction, boosting self-worth, revenge, need to retaliate	Bitner, Booms and Moor, 1994; Reynolds and Harris, 2006; Harris and Daunt, 2012
Individual characteristics		
Demographics	Age, gender, educational background, economic status	Fullerton and Punj, 1993
Psychological factors	Personality traits, level of moral development, propensity for thrill-seeking	
Situational factors		
Customer-related	Instrumental goals, stress	Harris, 2004; Grandey, 2007; Yagil, 2008; Daunt and Harris, 2012
Service characteristics	Service agent accent, types of messages received while waiting on the phone	Wang et al., 2012; Harris, 2012; Munichor and Rafaeli, 2007
Contextual factors	Type of service offered, impersonal character of business	Fullerton and Punj, 1993; Fisk et al., 2010

Pension plan participants, being outsiders to an organization, are particularly prone to show negative emotion expressions (Grandey et al., 2007). One of the reasons for this is the nature of the relationship between participants and pension service staff (e.g. Bishop et al., 2005; Grandey, Kern and Frone, 2007; Yagil, 2008). A mantra of 'the customer is always right' implies an unequal power distribution in the relationship vis-à-vis the pension service agent (Yagil, 2008). This unequal power distribution in the service relationship is rooted in the anonymous character of the pension service relationship and in the mutual expectations (Grandey et al., 2007). The Dutch pension service context is a special case, however, as participants are not free to change pension service provider; as such, there is a lock-in effect that shifts some power away from the customer to the service provider. In other words, the pension service provider may be less dependent on participants, as the latter have less coercive power compared to customers in most other service contexts (Yagil, 2008).

Such perceived lack of control may give additional rise to negative emotion expressions on the part of participants. This situation may be different in the case of financial products that participants can buy to prepare for their pension, as opposed to the obligatory second pillar system, which is the focus of this paper. However, even in the latter case, power still resides with participants considering pension service employee performance-related KPIs (e.g., Fernie and Metcalf, 1998), which might impact the compensation or evaluation of employees, depending on the reward system in place. Another reason for power shifting relatively more toward participants is the short and episodic nature of pension service interactions, with lower levels of trust and higher degrees of positional bargaining toward the specific pension service agent (Skarlicki, van Jaarsveld and Walker, 2008). Finally, organizational display rules of appropriate reactions in customer service interactions take power away from pension service agents (Grandey, Kern and Frone, 2007), as they must adhere to the organizational guidelines and scripts rather than being free to show their instinctual reaction. While guidelines may also help agents in dealing with difficult situations, the predominant effect is negative, as the guidelines may contrast with a person's instinctual reaction in a specific situational context.

Various emotional and cognitive factors may also increase the likelihood of negative emotion expressions. At a cognitive level, participants may for instance perceive justice violations or a low risk of consequences of their behavior, leading them to express negative emotions (Fisk et al., 2010). In addition, retirement anxiety can increase the time that a person needs to process information (Gutierrez and Hershey, 2013). Closely related to cognitive factors are emotional reasons that go hand in hand with cognitive elements. Clearly, a dissatisfied participant is likely to approach a pension service provider with negative emotions (Bitner, Booms and Moor, 1994). Also, during the pension service interaction, a low degree of perceived functional service quality may trigger dissatisfaction and thus negative emotions (Harris, 2012).

Apart from their overall satisfaction with the service, participants may also possess certain characteristics and personality traits that make them more prone to engage in negative emotion expressions. Demographic factors, such as age, gender, economic status, and education may all be relevant to negative emotions in a pension service context (Fullerton and Punj, 1993). However, their implications for the behavior of participants in pension service interactions may not always be clear-cut and may interact with other psychological factors. For instance, some people may abuse pension service interactions to boost their self-worth and elevate themselves above the pension service employee (Harris and Reynolds, 2004). Other psychological factors include the level of moral development and propensity for thrill-seeking, even though the latter is not likely to be a prominent issue in the context of mandatory pension plans.

Situational factors may also be at play when participants express negative emotions. Some participants may pursue instrumental goals related to the process (e.g. handling speed) or the outcome (e.g. pension amount) that they think can be achieved when engaging in negative emotion expressions (Grandey, Kern and Frone, 2007). This behavior may emanate from experience in other service contexts, where such behavior is applied for immediate financial compensation (e.g. Harris, 2004). Participants may also simply feel stressed, regardless of whether this is related or not to the pension service interaction. Such stress may in turn promote negative emotion expressions (Yagil, 2008). Another factor specific to pension service interactions handled via the phone is the waiting line that a participant is redirected to before reaching a pension service agent. Prior research has documented the effects of displaying different messages in call center waiting lines (Munichor and Rafaeli, 2007). Apologetic messages received the most negative customer reactions. In addition, pension service agents themselves can induce negative emotion expressions or negative reactions by customers (Wang, et al., 2012). Another closely related example, which can alienate participants in a pension service context, is a bureaucratic tone of voice by the service agent.

4. Individual and organizational consequences of negative emotion expressions

Expressions of negative emotion by participants have been shown to have adverse consequences, both immediate and indirect, for service agents and providers in general. On an individual pension service agent level, they may harm psychological well-being and cognitive performance (Goldberg and Grandey, 2007; Poddar and Madupalli, 2012; Rafaeli et al., 2012; Wegge, Vogt and Wecking, 2007). Short-term emotional consequences include negative effects on mood or temper and the need to engage in emotional labor, while long-term psychological consequences include sustained feelings of degradation and stress disorders (Harris and Reynolds, 2003).

Previous research has found strong support for the relation between negative expressions of customer emotion and emotional exhaustion on the part of service agents. Specifically, in a call center context, negative emotion expressions are considered to be emotionally draining (Deery, Iverson and Walsh, 2002; Poddar and Madupalli, 2012; Rupp and Spencer, 2006; Goldberg and Grandey, 2007). In general, emotional exhaustion is considered as the first stage of a burnout process (Deery, Iverson and Walsh, 2002). It is defined as "feelings of being emotionally overextended and depleted of one's emotional resources" (Maslach, 1993, pp. 20-21). According to Moore (2000), emotional exhaustion includes feelings of tiredness and fatigue, a lack of energy, and the depletion of an individual's emotional resources. Emotional exhaustion as a consequence of negative expressions of customer emotion is thought to be a consequence of the perceived increase in job demands from the service agent's perspective (van Jaarsveld et al., 2010). Service agents also report higher stress appraisal as a result of negative customer emotion expression, which in turn is positively related to emotional exhaustion (Grandey, Dickter and Sin, 2004). Service employees may also regard negative customer behavior as unfair and consequently feel negative emotions, such as anger (Rupp and Spencer, 2006).

At a cognitive level, expression of negative emotion by pension plan participants may also impact the performance of pension service agents (Wegge, Dick and Bernstorff, 2010). Immediate cognitive consequences may surface in the form of reduced recall of a participant's request and impaired recall, recognition, and working memory (Rafaeli et al., 2012). The authors identified three different factors that can lead to this impairment in cognitive performance: rumination, secondary appraisal, and arousal. Rumination is characterized by contemplating about reasons for the customer's behavior. Secondary appraisal includes redirection of one's focus of attention away from the task. Arousal includes emotions such as anger. Complementary to these findings, Goldberg and Grandey (2007) found that emotional exhaustion as a result

Table 2. Consequences of negative customer emotion expressions in a call center context

Consequence	Process	Reference
Individual consequences		
Emotional consequences	Customer verbal aggression → emotional dissonance, lower performance	Wegge, Dick and Bernstorff, 2010
	Customer interaction → emotional exhaustion	Deery, Iverson and Walsh, 2002; Poddar and Madupalli, 2012; Goldberg and Grandey, 2007
	Customer interactional injustice → anger, perceived unfairness	Rupp and Spencer, 2006
	Aggressive customers → three burnout components	Wegge, Vogt and Wecking, 2007
	Customer incivility → increase in job demands → emotional exhaustion	Van Jaarsveld et al., 2010
	Frequency of stress appraisal (due to aggressive customers) → emotional exhaustion	Grandey, Dickter and Sin, 2004
Cognitive consequences	Customer verbal aggression → reduced recall of customer requests, reduced recognition memory	Rafaeli et al., 2012
	Emotional exhaustion due to customer misbehavior → committing more errors during call	Goldberg and Grandey, 2007
	Customer mistreatment → depletion of cognitive resources	Wang et al., 2011
Organizational consequences		
Organizational costs	Turnover, absenteeism costs, indirect costs of resource and time loss	Sawyer, Srinivas and Wang, 2009; Poddar and Madupalli, 2012; Deery, Iverson and Walsh, 2002
Managerial challenges	Difficulty in finding new front-line employees	Poddar and Madupalli, 2012
	Reduced affective commitment → higher turnover intentions Conflicting pressures, recruitment and retention, counseling and motivation, time expenditure	Harris, 2012

of expression of negative customer emotion led employees to commit more errors during a customer service call. An explanation for the impairment of an employee's cognitive resources is provided by Wang, et al. (2011). They suggest that negative emotion expressions impose additional demands on employee resources that prevent the service agent from regaining cognitive resources.

Beyond affecting the pension service provider directly through the immediate negative effects on pension service agents, negative emotion expressions may also affect the service provider indirectly. Service call centers face a high rate of employee turnover and absenteeism, leading to high financial costs (Sawyer, Srinivas and

Wang, 2009). In addition to these direct costs, negative emotion expressions may also lead to indirect costs, including less time to serve other pension participants effectively and the financial costs of staff retention, recruitment, and training (Harris and Reynolds, 2003). For instance, Deery, Iverson and Walsh (2002) found that call center service employees are more likely to be absent on the days following high levels of emotional exhaustion. Previous research has also revealed that call center service employees identify emotional exhaustion resulting from negative expressions of customer emotion as one of the most important reasons to leave the organization, or even to leaving the job in general (Poddar and Madupalli, 2012). Pension service providers can only benefit from a high affective commitment of their employees, such that they stay with the organization. Nonetheless, particularly this type of commitment suffers from negative emotion expressions by customers in a call center context (Harris, 2012). The consequences of negative customer emotion expressions are summarized in Table 2.

5. Coping tactics of pension service employees

In light of the wide array of adverse consequences of negative emotion expressions by pension participants for pension service agents, it is crucial to understand what coping tactics pension service agents use in response to such behavior and what the individual and organizational consequences are. At a meta level, coping tactics can be either problem-focused or emotion-focused (Ben-Zur and Yagil, 2005). Problem-focused strategies include dealing with the problem and preventing negative emotion expressions before they arise (Yagil, 2008), whereas emotion-focused strategies include actions of behavioral disengagement, seeking emotional support, and venting negative emotions (Goussinsky, 2012). For practical reasons, this section addresses emotion-focused coping strategies, as problem-focused strategies are probably beyond the scope of what a pension service agent is able to influence.

Closely related to emotion-focused coping is the concept of emotional labor that involves surface acting and deep acting. Emotional labor is defined as "the effort, planning and control needed to express organizationally desired emotion during interpersonal transactions" (Morris and Feldman, 1996, p. 987). Especially in a pension service call center context, emotional labor is paramount, as this type of service work is characterized by strict display rules and monitoring, and it may even require pension service agents to follow scripted dialogues with participants (Deery, Iverson and Walsh 2002). Pension service employees are thus expected to express emotions that may be contradictory to how they feel when intending to produce a satisfactory customer experience. Belt, Richardson and Webster (1999) characterized this kind of behavior as "smiling down the telephone." In general, negative customer emotion expressions are associated with higher levels of service employee emotional labor (Rupp and Spencer, 2006; Grandey et al., 2007).

Emotional labor involves surface acting and deep acting. Surface acting is described as "modifying behaviors by suppressing or faking expressions" (Brotheridge and Lee, 2002; Grandey, 2000). Thus, service employees display emotions without changing their inner feelings, simply in order to comply with organizational display rules (e.g. Grandey, 2003). Unpleasant service calls are associated with higher levels of surface acting (Totterdel and Holman, 2003). Typically, service agents engage in surface acting when dealing with negative emotions (Goldberg and Grandey, 2007). In such case they are also more likely to engage in venting their own emotions (Grandey, Dickter and Sin, 2004).

The second form of emotion regulation, that of deep acting, implies "changing cognitions through perspective taking or positive refocus" (Grandey, Dickter and

Sin, 2004, p. 402). Here, service employees modify their inner feelings to match organizational expectations of appropriate behavior towards the customer (Grandey, 2003). Perspective taking is also thought to reduce the negative effects of customer aggression on the employee's cognitive functioning (Rafaeli et al., 2012). In a call center context, employees are more likely to engage in deep acting when dealing with less negative emotion expression (Grandey, Dickter and Sin, 2004).

Beyond emotional labor, service employees may also engage in behavioral emotion-focused coping tactics to deal with customers. In their covert form these comprise seeking emotional support from co-workers and withdrawal behaviors characterized by absence and depersonalization (Deery, Iverson and Walsh, 2002; Goussinsky, 2012; Poddar and Madupalli, 2012; Skarlicki, van Jaarsveld and Walker, 2008). Seeking emotional support from colleagues involves talking together about a difficult customer and sharing experiences (Goussinsky, 2012; Yagil, 2008). Another form of covert behavior is employee engagement in negative terms, which includes critical comments about customers to colleagues. Overt forms of coping with customer misbehavior include sabotage and incivility towards customers (van Jaarsveld et al., 2010; Wang et al., 2011). Moreover, Deery and Kinnie (2002) report that some employees may simply disregard organizational rules and hang up on offensive customers.

A study conducted by Echeverri, Salomonson and Åberg (2012), which divided employee coping tactics into routine, situational, and contextual tactics, was also based on customer service interactions via telephone. Routine tactics included hanging up, referring to rules, ignoring, lying, arguing, and apologizing to customers. Employees were especially likely to discontinue the conversation with the customer when the customer used foul language or acted in an insulting way. Situational tactics were characterized by a more rationalized way of coping with negative emotion expressions by customers. These tactics included referring to the consequences, calming down the customer by means of explanations, using humor to reduce tension, or forwarding the customer to a colleague.

Another study, by Reynolds and Harris (2006), examined employee coping tactics in the hospitality industry. The authors illustrate several forms of coping with customer misbehavior, some of which also apply in a call center context. They distinguished coping tactics employed prior to encountering a deviant customer, coping tactics during the interaction with the customer, and tactics used after the service encounter. The tactics used by call center employees prior to the service encounter can also include engaging in mental preparation before starting their work. One specific tactic that employees used during a service encounter with a problematic customer is especially applicable in a call center context. This included altering personal speech patterns in order to socially align with the customer. This was accomplished by adapting one's verbal repertoire or accent; that would signal more mutual understanding to the customer with the intent of calming the customer down. As to coping tactics after the encounter, one that may also be applicable in a call center context is "seeking individual isolation." The wish for individual isolation may partly be evidenced by the increase in absences of call center service employees who experience customer misbehavior (see Deery, Iverson and Walsh, 2002).

Engaging in the coping tactics discussed above may have immediate consequences for the well-being of individual pension service agents. Research generally regards emotional labor in the form of surface acting as having negative emotional consequences related to burnout and emotional exhaustion (Ben-Zur and Yagil, 2005; Goldberg and Grandey, 2007; Hochschild, 1979). With regard to a call center context, Totterdell and Holman (2003) indicate that employees were unable to sustain high levels of expressed positive emotions due to emotional dissonance resulting from surface acting. Emotional dissonance is defined as the discrepancy between expressed and felt emotions and is associated with lower work motivation and employee well-being (Wegge, Dick and Bernstorff, 2010). Behavioral coping tactics such as engaging in negative expression enables service employees to release tension and regain control over the situation or to gain sympathy from others (Harris, 2011), while social support from colleagues helps buffer stress (Deery, Iverson and Walsh, 2002).

In terms of organizational consequences, surface acting is generally related to lower affective delivery of services. Employees engaging in surface acting are more likely to be perceived by the customer as "breaking character", or "revealing negative moods or reactions to customers which damages the customer-organization relationship" (Grandey, 2003, p.89). Deep acting, in turn, is perceived as more authentic by the customer and is therefore considered as having positive influence on the customer-employee interaction (Grandey, 2003; Groth, Hennig-Thurau and Walsh, 2009). In general, deep acting is considered as being positively related to service performance (see also Grandey, 2003; Totterdell and Holman, 2003).

In a call center context, Totterdell and Holman (2003) found that deep acting, contrary to surface acting, is associated with the quality of service performance and displayed enthusiasm. In addition to the negative aspects of surface acting related to customer satisfaction and employee emotional well-being, sabotage as a coping tactic is also negatively related to employee performance and can have detrimental organizational outcomes. Sabotage diverts employee attention and energy away from the task and reduces task performance (Skarlicki, van Jaarsveld and Walker, 2008). Social support seeking, which was presented as a behavioral coping tactic, may also

Table 3. Consequences of service employee coping with negative customer emotion expressions in a call center context

Consequence	Process	Reference
Emotional well-being	Surface acting → resource depletion, burnout	Goldberg and Grandey, 2007
	Surface acting → stress	Grandey, 2003
	Emotional dissonance → lower work motivation, reduced well-being	Wegge, Dick and Bernstorff, 2010; Totterdell and Holman, 2003
	Negative word-of-mouth → release tension, regain control over situation	Harris, 2012
	Social support from co-workers → buffers stress	Deery, Iverson and Walsh, 2002
Service performance	Surface acting → lower effective delivery of service	Grandey, 2003
	Deep acting → positively related to service performance (higher displayed enthusiasm, higher quality)	Totterdell and Holman, 2003
	Sabotage → diverts energy and attention away from task, decreases task performance	Skarlicki, van Jaarsveld and Walker, 2008
	Social support seeking → negative effect on service quality	Goussinsky, 2012
	High turnover, absenteeism → cost of absenteeism, training, recruitment	Sawyer, Srinivas and Wang, 2009; Poddar and Madupalli, 2012
Customer satisfaction	Surface acting → perceived by customer as breaking character	Grandey, 2003
	Deep acting → positive influence on customer-employee interaction (more authentic)	Grandey, 2003
	Deep acting → higher perceived customer service orientation, loyalty intention	Groth, Hennig-Thurau and Walsh, 2009

have a negative effect on service quality (Goussinsky, 2012). After an unpleasant service encounter with a customer who expresses negative emotions, service employees may infect colleagues with their negative affective state. An overview of the consequences of service employee coping with negative customer emotion expressions is presented in Table 3.

In practice there are limits, of course, to what pension service employees can do in terms of coping and protecting themselves from negative effects. Employees are dependent on the organizational support from the pension service provider. This might, for instance, be in the form of targeted training programs or providing a facilitative working infrastructure and atmosphere.

6. Changes ahead: technology and pension service interactions

Along with data analytics and fraud detection enabled by artificial intelligence (AI), AI also enabled communication channels belonging to the three most common specific-use cases within financial services (World Economic Forum, 2020). Smart Reply by Google, for example, offers automatic responses to short emails (Kannan et al., 2016), and chatbots that imitate human-to-human interactions with virtual avatars are implemented at financial service providers like UBS (World Economic Forum, 2020).

As pension communication becomes more and more online, opportunities for cost savings and advanced personalization emerge. The analysis of call center interactions by Nell et al. (2015), for instance, indicates that calls to a call center are often not seen as positive activation, but as unintended costly traffic, for which the pension provider needs to hire and train expensive call center agents. Technological support by artificial intelligence tools such as VERA (as outlined above) can be valuable in making transactions more effective, and chatbots that are used for simple participant requests can free up space for call centers to focus on more complicated individual requests. In this line, APG initiative Kandoor combines human expertise and a chatbot to answer questions that individuals have with regard to their financial situation; its financial experts offer this help for free, in the spirit of a true human economy (Kandoor, 2019). Adaptive personalization has furthermore been shown to work better than self-customization (Chung et al., 2016).

Another important development is the trend towards giving participants a holistic financial picture of their personal situation. We have focused in this paper on pension service interactions within second pillar pensions, but there are more parts to the puzzle: what participants earn, spend, save and invest are all elements that contribute to (or detract from) their financial well-being. Holistic financial planning tools that give an overview of one's financial situation, plus help to make a responsible choice, are facilitated by technology: the "Toekomstverkenner", for example, helps individuals to explore their future by combining data on income and spending levels (PFZW, 2018).

In the relationship between technology and pension service interactions, trust is also crucial. Trust traditionally takes on a key role in emotions in pension communication, as it is considered one of the most critical factors for healthy company-consumer relationships (e.g. Morgan and Hunt, 1994). It is an aspect that financial service providers have been struggling with extensively, especially since the financial crisis of 2008 (Hansen, 2012). Van Dalen and Henkens (2018) found that pension funds are trusted more than banks and insurance companies, especially since they are perceived as more honest and putting the needs of their customers first. Yet, it is important to note that trust is a relational component, one that requires some form of ongoing relationship between pension plan participants and pension service providers. As the Netherlands has an obligatory pension scheme, participants traditionally may not always be aware of their relationship with their pension provider, as evidenced by the fact that 59% of Dutch employees are not knowledgeable about their pension scheme (GFK, 2014). However, this relationship gets more important in the light of pension reforms: pension service providers may actually be the main information provider and institution to turn to with questions that participants have with regards to their pension. This will increase the importance of trust between participants and providers in the future. With regard to technological personalization, for example, it has been shown that individuals are more likely to accept personalization if they trust the system (Smith et al., 2005; Venkatesh and Davis, 2000; Pavlou, 2003).

However, trust in AI is quite low within society at large, and consumers have privacy concerns as technology within big data and AI advances (Banarvar, 2016). While experts expect that AI assistants will be able to build trust faster than any marketing technology before, because of their superior services (Dawar, 2018), many individuals fear the unknown and, specifically, possible job replacements. Kai-Fu Lee, venture capitalist and AI expert, expects 40% of all jobs to be eliminated by AI in the coming 15 years (CBS News, 2019). Privacy is essential for creating trust: the more data are shared with the provider, the more accurate and personalized services can be offered, but the more exposed the individual can feel (Dawar, 2018).

In addition, negativity spirals develop much faster online than positivity spirals (Hewett et al., 2016). The media have frequently reported negatively on AI and technology in recent years, increasing the public's fear of the unknown and job loss. There are certainly serious concerns with regard to a rapidly developing environment, where we do not know what future challenges it will bring. The World Economic Forum identified nine key ethical issues in AI, number one being unemployment because of automation and number three being humanity as machines affect our behavior and interaction. Within the context of pension service interactions, we can conclude that the human aspect is here to stay (at least for the near future) and that technology can improve – rather than replace – human interaction. Security concerns are also raised by the World Economic Forum, as systems may develop faster than the necessary protection environment around it (World Economic Forum, 2016). This is certainly a point to keep in mind, especially since pension providers deal with sensitive, personal, and financial data of participants. Leakages are not acceptable and can easily destroy the trust that pension providers have built up with so much effort. Communication with participants is even more important since it helps in repairing trust as well (Grimmelikhuijsen and Knies, 2017).

Li et al. (2019) found moreover that while some participants may be more communal oriented, others are more exchange focused, which impacts how they evaluate service interactions. They also suggested that the type of interaction matters in this respect as well; in other words, consumers may expect more warmth in an encounter at the restaurant than they do with financial services (Li et al., 2019). For pensions, this may even differ per interaction topic: participants would probably expect service employees to show a lot more compassion when they call to check on their pension situation after their spouse has passed away than when they call to understand their annual statement better. Most of us would agree that this aspect of warmth is missing when interacting with a chatbot, as opposed to interacting with a human call center agent. However, as we have shown above, if individuals are not trained properly to cope with emotions, they can perform even worse than technological alternatives. Creating synergies between humans and technology is therefore crucial. It is therefore especially important to design technology applications within pension service interactions with great care, and if possible, together with the participants. Continuous feedback and improvement are crucial when testing and prototyping. Seamless integration of humans and AI is subject to development and testing and can only be achieved with an open and collaborative workforce. Resistance to change and fear of technological advancements is certainly not helpful in this regard. Based on the literature and reports that we discussed in this design paper, we identified the following implications.

Implications for practitioners:

- With regard to employees, it is important to create an atmosphere of trust. As shown in the use case of the VERA project, technology can be used to improve pension service interactions without replacing humans as service agents. Including employees in the process of technology inclusion can help to create an atmosphere of trust and support for the new technology. In addition, it is important to understand the emotions that employees need to deal with, and to use technology to support them to react appropriately to these emotions. Call center employees ideally not only possess a great deal of knowledge with regards to the topic; they also need very good social skills. Team managers within the call center should therefore focus on this and encourage employees to make use of the technology available.

- With regard to participants' needs, continuous monitoring is crucial to ensure that the communication within pension service interactions improves their awareness, satisfaction, and trust levels.
- As to the ethical aspects, we should make sure that AI applications take into account public concerns on topics such as the ones formulated by the World Economic Forum discussed above. AI should thus not be used to simply increase click rates, as pension funds must keep in mind their overarching goal, that of improving the financial well-being of pension plan participants. The human aspect of pension service interactions should not be lost, as it is essential that participants feel at ease in an environment that they are not familiar with and find complicated.
- AI can furthermore help detect emotion-based KPIs such as satisfaction and trust. More interaction with chatbots can be used for development and training in the technology, so as to ultimately cater to the emotional needs of the customer. Good quality training data for these algorithms are essential in this regard. In addition, collaboration between pension providers, companies in financial technology, and other entities in the financial services industry can serve to identify solutions and to develop optimal digital data-driven service with a human touch.

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