Chapter 3
[Re] defining the Psychological Contract Within Industry 4.0: An Expert Opinion Analysis

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3.1 Introduction

There is noted emphasis on the drive towards a more industrialised society led by technological development (Haung, 2011). This era of technological growth is also promoted especially on the African continent with a young population group that is adopting the technology (UNECA, 2016). There is also an observation of the influence of globalisation inclusive of technological advancement in shaping the experience of work (Chinyamurindi, 2016; Suutari, Brewster, Mäkelä, Dickmann, & Tornikoski, 2018). Also affected by this are those who are engaged in work inclusive of employees and even managers. In essence, technology potentially plays a pervasive role in contemporary society (Rosenblat & Stark, 2016).

Calls exist within the Human Resource Management (HRM) literature to focus on understanding how new forms of work within the technological era manifest with emphasis on technologies such as artificial intelligence within the Fourth Industrial Revolution (4IR) (Klein & Potosky, 2019; Tambe, Cappelli, & Yakubovich, 2019). Such an understanding could contribute to addressing challenges experienced with an Industry 4.0 context and how these relate to the experience of work. Such studies are noted to have potential benefits in also improving not just the experience of work but also those engaged in such work (Naidoo, Abarantyne, & Rugimbana, 2019). A focus on such studies becomes important especially when there is evidence showing the role that the work environment has on the psychological contract (Poisat, Mey, & Sharp, 2018). The role of senior managers in all this becomes essential as well (Magano & Thomas, 2017).

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3.2 Chapter Objective

The chapter explores the role of the psychological contract within the context of Industry 4.0. This objective stems from three salient gaps within the literature. First, calls stemming from the international literature for a more expansive understanding of the concept of the psychological contract in view of Industry 4.0 (Braganza, Chen, Canhoto, & Sap, 2020; Yang, Chen, Roy, & Mattila, 2020). Second, given the rapid changes happening within the South Africa context, there is also a need for a continued inquiry into the relevance of the psychological contract albeit the noted and rapid changes happening (Solomon & van Coller-Peter, 2019; van Niekerk, Chrysler-Fox, & van Wyk, 2019). Finally, from a methodological point of view borrowing from the international and local literature, the psychological contract has mostly been researched utilising a positivist-quantitative research approach relying on surveys. Researchers have mostly opted to rely on established measures in seeking to understand psychological contract as a construct. Though this is laudable in generating objective data, there is a need to be expansive also in terms of methods in understanding the concept of the psychological contract. There is growing evidence of the value that qualitative methods potentially can play in leading to this needed appreciation and understanding of the psychological contract. This research is prefaced within these identified gaps.

The chapter follows a specific structure. First, the psychological contract as one of the variables under-study is given attention. Second, the emphasis is also given on the Industry 4.0 context. Third, the theoretical and empirical literature is presented, bearing in mind the variables under study. Fourth, the research methodology and design are presented. A discussion of the findings of the research follows thereafter given the extant literature. The chapter concludes by presenting the implications of the research findings to both theory and practice given the context in which the study was located.

3.3 Psychological Contract

The psychological contract is deemed a psychological variable of relevance especially in contemporary society, hence its popularity (Windle & von Treur, 2014). The psychological contract is viewed as the fulfilment and non-fulfilment of organisational relationships in terms of mutual obligations, expectations, and promises (Savarimuthu & Racheal, 2017). In essence, the psychological contract concerns those individual beliefs around the obligations expected within an employment relationship (Lester, Turnley, Bloodgood, & Bolino, 2002). These expectations could include inducements related to aspects of work such as remuneration, opportunities for further development, and equity (Botha & Moalusi, 2010; Lester & Kickul, 2001). In South Africa, psychological contract inducements are flagged to be

needing to be well-known and hence them being advertised on company websites (van Niekerk et al., 2019).

Despite this empirical focus, gaps still exist within the literature. O'Donohue, Hutchings, and Hansen (2018) note the need to be expansive in understanding the psychological contract. This considers sectors of work and sample groups that often do not receive much theoretical and empirical attention. This appears to be a wider clarion call within the management sciences discipline especially given the changing nature of work brought about by technology. Chung and Tijdens (2013) call for more empirical focus in such a context on unusual and under-researched organisational, industrial, and cultural environments bearing in mind the new way of working (Chung & Tijdens, 2013).

3.4 Industry 4.0

There is a renewed emphasis on aspects of Industry 4.0 considering digital technologies and the fourth industrial revolution (4IR). At the core of such an industry is the use of technology to proffer smart and intelligent ways of interaction within the social and business setting (Haenlein & Kaplan, 2019). This has led to some popular concepts emerging within the experience of work notably: (a) the Internet of Things, (b) cloud computing, (c) big data, and (d) analytics (Li, Dai, & Cui, 2020). Within businesses, these aspects of digital technologies related to the 4IR are believed to improve not just business efficiency but also aspects related to connectivity, communication, and automation (Ardolino et al., 2018). Such digital technologies related to the 4IR potentially present opportunities not just for human but also for economic development (Li et al., 2020). At the core driving such aspects are people in the organisation (Ivanov, Dolgui, & Sokolov, 2019) in seeking to achieve economic rent (Dubey et al., 2019).

The emergence of Industry 4.0 is largely influenced by changes happening to world economies. These changes include (a) include organizational for innovation especially in a knowledge driven economy (Acs & Autio, 2011) and (b) pressure to make the experience of work not only flexible but innovative (Bakker, 2010; Burke, 2011). However, the emergence of such an industry is met by scepticism and a potential threat, especially towards employees. For instance, given the collaboration that can exist between humans and machines in such a context (Barro & Davenport, 2019), questions can be raised as to what extent such a partnership poses a threat towards employees especially given that much of the problem solving is left in the hands of the machine. In such a context, a need will continually exist to assist employees in managing the change that is brought about by technology (Agar, 2020; Daugherty & Wilson, 2018). In the South African context, there is an argument for HRM professionals to embrace the opportunities brought about by Industry 4.0 and address challenges that may come with this (Dhanpat, Buthelezi, Joe, Maphela, & Shongwe, 2020).

3.5 Theoretical Consideration

3.5.1 Human Capital Theory

The first theoretical consideration is human capital theory. Focus on human capital is viewed prioritisation of skills and knowledge for the purpose to enhance career advancement and productivity (Becker, 1964). In such a context, focus is given on quests for individual development inclusive career development and mobility (Vance, 2005). The development of generic skills and human capital is argued to aid this process (Gibbons & Waldman, 2004). This, in turn, promotes career success (Becker, 1964). In turn, the development of human capital is crucial in outcomes such as salary, promotion opportunities, job success, and even a heightened experience of work (Ng & Feldman, 2010). This can also link with ideas of the dynamic capability theory (Teece, Pisano, & Shuen, 1997). Emphasis is placed on how a firm adapts and integrates with the view of changes internally and externally. In essence, this either results in the creation, extension, or modification of a firm's resources (Helfat et al., 2007). The role of human capital in driving all this becomes important.

3.5.2 The Resource-Based View of the Firm

A second theoretical consideration is the resource-based view of the firm (Barney, 2001; Wernerfelt, 1984). The emphasis is not just on the existence but utilisation of resources towards a sustained competitive advantage. A critical aim enterprises strive for is around optimum performance (Roxas, Ashill, & Chadee, 2017) and this is a subject continued inquiry (Hashim, Raza, & Minai, 2018). Given this, there is a continued inquiry into the role of the environment, organisational processes, and managerial actions in assisting in the realisation of strategy (Marín-Idárraga, Hurtado-González, & Cabello-Medina, 2016). The role that human resources can play in all this becomes an important empirical angle of focus (Lavie, Stettner, & Tushman, 2010).

3.5.3 Positive Psychology

Finally, considering a focus on the psychological contract, the research is also informed by the branch of psychology referred to as positive psychology. This is the "science of positive subjective experience, positive individual traits, and positive institutions" (Seligman & Csikszentmihalyi, 2000, p. 5). Within the field of organisational behaviour, the concept of positive psychology is viewed as crucial in enhancing understanding of those human resource factors that exist as strengths (Bouzari & Karatepe, 2018) in the formation of psychological capacities for

effective improvement (Luthans, 2002). In essence, this can be useful in understanding those factors that assist individuals and organisations to flourish (Cameron & Caza, 2004).

3.6 Empirical Literature

The concept of the psychological contract has received much empirical attention. In Ghana, the psychological contract is linked to commitment (Agbozo, Anasa-Bonnah, Hoedoafia, & Atakorah, 2018). The thinking here is that through employers and employees fulfilling their perceived expectations, the working relationship is made better. However, due to the entrance of technology, especially considering aspects of Industry 4.0 some challenges may exist that threaten the psychological contract. For instance, technology may threaten the employment relationship given concerns around job loss, social insecurity, and continued widening inequality (Friedman, 2014). Despite these concerns, negative they appear, others (Kirven, 2018) posit technology assisting improve work and giving control to employees. A point to cite here is the gig economy where digital platforms can be used to connect directly to consumers and clients (Harris, 2017). This has seen popularity in platforms such as Uber and offering more control around aspects of work. The role and value of the psychological contract in such a setup may be questioned.

Another threat towards the psychological contract could be the changing nature of work, especially within the Industry 4.0 context. For instance, Kossek and Lautsch (2018) note the changing context of work with the adoption of aspects such as remote working or even telecommuting. Others (Sundararajan, 2017) note issues of microwork, allowing work to be done on-demand through the internet defying traditional norms of work. This change is not only noted from the employee side but also affecting management. The current climate of work has witnessed the emergence of changes in management styles and equally organisational structures and forms (Cappelli & Tavis, 2018; Mclver, Lengnick-Hall, & Lengnick-Hall, 2018). This has seen a need to even re-visit traditional understanding of work considering this contemporary tide driven by technology (Cañibano, 2019).

A further challenge rooted in seminal work (Argyris, 1964) concerns seeking to strive for a balance between the values of the individual and those of the organisation. A challenge that may have to be addressed within an industry 4.0 era is how this can be done especially given often competing for values and varying stakeholders (Guest, 2017).

Based on the presented literature, the research aims to understand the experience of the psychological contract within the Industry 4.0 era using the vantage point of experts within the work psychology and technology disciplines.

The following research question was set: *How do a panel of experts within the work psychology and technology disciplines frame the psychological contract within an Industry 4.0 era, what implications can be drawn from such framing?*

3.7 Research Design

The study adopted a qualitative exploratory research approach to understand the way the psychological contract within an Industry 4.0 discipline is framed. There is an acknowledgment of scant focus being given to qualitative methods especially within management research (Americo, Carniel, & Clegg, 2019). Given this, there appears to be a breakaway from studying issues around the psychological contract from a quantitative lens to also incorporate a qualitative focus in understanding internationally (Sewpersad, Ruggunan, Adam, & Krishna, 2019) and in South Africa (Solomon & van Coller-Peter, 2019). A qualitative research approach was deemed useful in understanding such experience (Chinyamurindi, 2018) and allowing for individuals to be able to express themselves given the presented topic (Levitt et al., 2018) and understand any complexity around a phenomenon (Thanh & Thanh, 2015). Through this research approach, participants were able to articulate and express themselves openly around the presented subject of focus (Marshall & Rossman, 2011).

Data collection was done through semi-structured interviews. Interviews allowed for interaction in the acquisition of information (Bantom, de la Harpe, & Ruxwana, 2016). The aim of the entire process using the experts was through a conversation to generate meaning and understanding based on the interview questions asked. In addition to the transcribed interviews, notes were also made during the interview. With permission from the participants, all the interviews were audio-recorded. The length of the interviews varied from 50 to 80 min.

Concerning sampling, a non-probability sampling approach was used relying on a purposive sampling technique. The aim here is to narrow focus only on those characteristics needed in the sample (Etikan, Musa, & Alkassim, 2015), i.e. experts within the work psychology and technology disciplines. A total of 25 experts took part in the research where data was collected over 32 months. A non-probability sampling method with a convenience sampling technique was employed in selecting participants (Cohen, Manion, & Morrison, 2011). The following inclusion and exclusion criteria were used to select participants: (1) a participant had to be working within the disciplines of work psychology and technology; and (2) a participant had to be classified as an expert. These criteria were further used by the key informants in the recruiting process. This ensured consistency in the information gathered from the participants' experiences. The participants' demographic characteristics are illustrated in Table 3.1.

3.8 Data Analysis

An interpretivist approach was adopted for data analysis in this study. A qualitative thematic analysis approach was utilised. Over the 32 months of data collection, the interviews were transcribed soon after each interview. The transcripts were then

Table 3.1 Demographic characteristics of participants

Participant	Gender	Years of experience	Discipline	Category of work
1	Male	12	Technology	Industry
2	Male	11	Technology	Industry
3	Male	8	Work psychology	Academia
4	Male	9	Work psychology	Academia
5	Female	11	Work psychology	Industry
6	Female	9	Work psychology	Industry
7	Female	12	Work psychology	Industry
8	Male	8	Technology	Industry
9	Male	7	Technology	Industry
10	Male	11	Technology	Industry
11	Female	12	Work psychology	Academia
12	Male	13	Work psychology	Industry
13	Male	14	Technology	Industry
14	Male	12	Work psychology	Academia
15	Male	15	Work psychology	Academia
16	Male	8	Work psychology	Academia
17	Male	9	Work psychology	Industry
18	Female	11	Technology	Academia
19	Female	10	Work psychology	Academia
20	Male	8	Technology	Industry
21	Female	11	Technology	Industry
22	Female	8	Work psychology	Academia
23	Female	9	Technology	Academia
24	Male	10	Technology	Industry
25	Female	10	Work psychology	Academia

Source: Author's Own Creation

entered into the QSR NVivo 9 data analysis and management software (Reuben & Bobat, 2014). The software was used to code each of the transcripts' paragraphs into themes and sub-themes. The coding was done using the participants' own words wherever possible. However, the researcher did not only rely on the software to develop the themes but it was used as a complementary method to develop themes. Thematic analysis was utilised to analyse the qualitative data through identifying and examining common patterns within the data (Vaismoradi, Turunen, & Bondas, 2013). In analysing the data through thematic analysis, the six steps advocated by Braun, Clarke, Hayfield, and Terry (2019) were utilised:

- Step 1: Familiarising yourself with your data—actively reading and re-reading data to obtain an overall understanding
- Step 2: Generate initial codes—noting important aspects of data
- Step 3: Searching for themes—identify codes and form codes into themes
- Step 4: Reviewing themes—relating the themes to codes and the entire data set

- Step 5: Defining and naming themes—producing clear definitions and names for themes
- Step 6: Producing the report—final analysis of themes relating to the initial research question.

3.9 Strategies to Ensure Data Quality and Reporting

There is a need to ensure data quality and reporting. Data quality was ensured by referring to literature suggestions from the work psychology and technology disciplines, and also guided studies within located with promoting ideals of Industry 4.0 (Ardolino et al., 2018; Dubey et al., 2019; Ivanov et al., 2019; Li et al., 2020). First, in terms of credibility, all interviews were conducted on the side-lines of local and international conferences. All participants at such conferences were registered through the conference. This provided some legitimacy and also a platform that can allow for the researcher and the research participants to meet. This also made it easy to build trust between the researcher and the participants. Second, after the data had been collected, transcriptions were made and sent back to the participants to correct if the need existed. Third, data were collected over 32 months and this allowed for data collection work inclusive of transcriptions to be done without pressure.

3.10 Findings

Two main themes emerged from the data analysis. First, the panel of experts expressed concern as to the threats on the psychological contract infused by the Industry 4.0 context. Second, the panel experts called for HRM function to play an important role, a balancing act between the need for technology within the confines of work but bearing in mind the importance of people. These findings are discussed next.

3.10.1 Theme One: Threats Posed Quests for Industry 4.0 on the Psychological Contract

The panel of experts was able to identify a range of challenges posed by quests of the Industry 4.0 and how these subsequently affected the psychological contract. Given that the experts were mostly from industry and academia, the nature of these challenges reveals also these spectrums. These challenges include (a) difficulty to manage 4IR ideals within a unionised context and (b) internal capability challenges.

From a human side, some experts bemoaned the challenge around the unionized context in South Africa:

> We are a unionized country, the driving force behind the fourth industrial revolution is technology. If you follow the history, labour and technology have always had a cat and mouse race. On one side, we want to make sure the people keep their jobs. On the other be productive by embracing some of these technologies. In our country, unions will win. This will preserve the psychological contract. [Participant 12]

A related threat was also expressed by another expert who complained at the rate at which calls have been made for South Africa to embrace the 4IR. The issue of concern here appears to be a neglect of the many challenges that exist within the current context of work.

> South Africa has serious labour challenges. Cutting through these labour challenges are social issues, serious social issues. Given these challenges, work becomes important, any kind of work. The adoption of 4IR technologies benefits capital and has a potential disadvantage for the workforce. So we can't talk of the psychological contract, the relationship is skewed towards capital. [Participant 21]

A related threat was also expressed by another expert who complained at the rate at which calls have been made for South Africa to embrace the 4IR. The issue of concern here appears to be a neglect of the many challenges that exist within the current context of work.

Some experts expressed challenges that may result in 4IR technology adoption through a lack of internal capabilities to support such ideas. Internal capabilities expressed by the experts appear to be those that align the need for skilled human resources as well as the technology to drive such. The misalignment as expressed by the experts appears due to challenges such as the skills component within the workforce. One expert using an example explains this challenge:

> Organisations may need to have a strong internal architecture. This means having the necessary technology in place to support 4IR adoption. This is an expensive undertaking requiring resources. As this happens, there needs an upskilling of those who may be behind such architecture. In a country like ours, we have a serious skills challenge. So if a psychological contract were to exist in such a setting, it needs to address concerns of employees. Upskilling becomes important. [Participant 6]

This view was also supported by another expert, who appealed for a phased-in approach from organisations concerning 4IR adoption. The caution appears to be guided by the need to also preserve aspects of work that are deemed important especially with a South African context. One such aspect concerns saving jobs.

> South Africa organisations are positioned better than some of their counterparts on the African continent. So these organisations need to be realising that they are pioneering especially on the African continent within Industry 4.0. We often train middle managers and make them aware of their important role in such a context. However, the same middle managers must be key in promoting and preserving human relations. I guess this is why need an alignment and making priorities not only straight but balanced. [Participant 11]

Table 3.2 presents additional quotes to summarise the presented challenges posed by Industry 4.0 and how the psychological contracts fit within all this.

Table 3.2 Challenges of Industry 4.0 on work and the psychological contract

Difficulty to manage 4IR because of unions	Internal capability challenges	How this affects the psychological contract?
"Much of the debate around the introduction of and adoption of 41R is derailed by concerns around keeping jobs. This is the union view. However, maybe we need to encourage jobs to be created within 4IR". Participant 19	"For the success of 4IR, there needs to pay attention to systems inside the organisation. These may need to be aligned with what needs to be achieved. Sadly, in South Africa, we do not have a good record of this". Participant 25	"Perhaps within industry 4.0, the psychological contract becomes more important. Due to threats imposed by technology, the expectation within the employer-employee relationship becomes key". Participant 5
"A message that needs to be conveyed is not just the need for industry 4.0 but a need to also address concerns that may come with such a drive. We need to advance but at the same time keep and save jobs". Participant 21	"People drive internal capabilities. Do you think it will be easy to drive those capabilities deemed a threat to the human experience? This may prove to be a difficult balancing act". Participant 18	"Expect to see more demands for job security from employees. The psychological contract will stand, emphasis more on security". Participant 17
"At the core is mechanization and technology. In turn, it may mean replacing humans with machines. How this will work in a country like ours is not only interesting but difficult". Participant 3	"A need exists to buttress the management capability to realise the effective success of the 4IR especially in a country and a continent is known for challenges around management. It does not mean we are just going to change just like that". Participant 1	"The psychological contract is enduring—I am sure before 4IR, it was still needed. What is key is not its removal but constantly prioritizing it". Participant 20
"Unions play an important role in South Africa. Judging by the resistance shots being fired by unions like COSATU, quests for 4IR will have to co-exist with making sure workers are prioritized". Participant 20	"If I were to pick two key functions especially operational, I pick the information systems capability and the human resource capability. Surprisingly, the two must work together, despite the history of the challenge". Participant 24	"I see the need and value for a contract of this nature. Employee voices become crucial especially when there is a chance of job losses in the horizon". Participant 7

Source: Author's own work

Given the presented challenges, the experts were asked to try and position solutions bearing in mind also the role of the psychological contract. This forms the next thematic finding of the research. Second, the panel experts called for HRM function to play an important role, a balancing act between the need for technology within the confines of work but bearing in mind the importance of people. These findings are discussed next.

3.10.2 Theme Two: HRM Playing a Strategic Role Within the Industry 4.0 Context

The panel of experts was unanimous in affirming the important role that the HRM function should play within the Industry 4.0 era. At the core, there is a need for HRM to be more strategic rather than passive. In so doing this, priority is placed on affirming the psychological contract as a vehicle through which the employment relationship is not only enhanced but kept alive albeit the macro-environmental changes affecting work.

One expert narrated this view succinctly:

> Given our concerns around the social aspect of work, it only is necessary to make sure that the function dedicated to improving aspects of work is at the forefront. In all this, we still need a psychological contract. Only a lot stronger. [Participant 20]

This strategic role of HRM within the Industry 4.0 era is needed and a move away from the more passive role:

> HRM played a passive role in the past. This passive role was merely reduced to fulfilling an administrative function. What we now need is a more strategic nuanced role—this means more voice and active participation especially in the future direction of the firm. The psychological contract is merely a pact through which this strategic role can find expression. [Participant 3]

Other participants see Industry 4.0 as the most heightened expression of technological advancement. Constant at each stage of various industry epochs are people driving this:

> We have moved through various industry levels. As this movement has happened, the management of people has been an important feature. I think within the Industry 4.0 era we witness this to be at the peak. So the HRM function must step and be counted. Part of the challenge appears to be a comfortability by the HRM function to be that corner function. This must change. [Participant 14]

Table 3.3 presents additional quotes to summarise the presented opportunities that HRM can play as a strategic function within Industry 4.0 and how the psychological contracts fit within all this.

3.11 Discussion

The chapter reports on research that aimed to understand the experience of the psychological contract within the Industry 4.0 era using the vantage point of experts within the work psychology and technology disciplines. Two thematic findings are reported. First, the findings reveal the threats posed towards quests for Industry 4.0 and how they impact the psychological contract. Focus here is given to challenges around a highly unionized South African context and challenges around internal capabilities. The second finding of the study reveals the need for the Human

Table 3.3 HRM being strategic within Industry 4.0 and the psychological contract

HRM as a strategic player within Industry 4.0	How this relates to the psychological contract?
"There needs to be an investment in developing people especially within Industry 4.0. People become an important currency. HRM needs to be more visible and always abreast". Participant 13	"A strategic HRM needs glue to hold things together. I guess this is where the psychological contract comes in to keep things together". Participant 4
"We have international case examples of organizations thriving within the 4IR. The success appears to be intertwined between the technology and the people". Participant 24	"Managing expectations of stakeholders is crucial. Some aspects of expectations may be unreasonable. The issue is managing these expectations in a bounded manner. In South Africa, this is often difficult given the relationship between unions and capital". Participant 3
"More Human Resource executives need to start speaking more business language. Instead of just supplying us with a workforce. We need total involvement and role". Participant 10	"The psychological contract offers the opportunity to also keep the employment relationship in check. For instance, in some of our work, we observe that failure to this relationship in check is a recipe for disaster. The role of the HRM function remains key in this". Participant 6
"Agility and alignment of the HR function are needed. This is a constantly changing context. HRM can't settle for less in such rapid change. Step up and be counted". Participant 1	"Contracts are all about trust and agreement so is the psychological contract. Enforcing this trust is needed especially within such a context. The opposite is true, disaster will happen when this contract is not upheld". Participant 23

Source: Author's own work

Resource Management function to continually play an important strategic role especially within Industry 4.0. In playing this role, the role of the psychological contract is argued as still necessary.

From the views of the experts, the role of technology is argued as important (Rosenblat & Stark, 2016). Given the challenges experienced around work, quests for the 4IR become important in changing the landscape concerning how work is done. In achieving such ideals, there is a need not to negate the important role played by the psychological contract as a platform in which employers and employees can work together to realise individual and organisational benefits (Botha & Moalusi, 2010; van Niekerk et al., 2019).

The findings show a balance between concerns and opportunities within the Industry 4.0 era. This something that has been argued to be prevalent especially considering the role of context in how technology is experienced (Li et al., 2020). The study and its findings appear to also argue for the role that people can play within such a context (Ivanov et al., 2019). Uniquely, the findings position the continued relevance of the psychological contract within such a context. Despite the pressures mounted on the context and experience of work (Bakker, 2010; Dubey et al., 2019), the role of the psychological contract is argued as still necessary. The thinking could be that such a contract proffers a way for the HRM function to not only be relevant but also manage the varying expectations experienced within the Industry 4.0 context.

The study sought to understand the experience of the psychological contract within the Industry 4.0 era using the vantage point of experts within the work psychology and technology disciplines. The study advances knowledge in a stream of research deemed as new and important not just theoretically but also practically (Haenlein & Kaplan, 2019). Uniquely, the study argues for the importance of psychological contact even with an Industry 4.0 argued to change the landscape of how work is done. The contribution here is in advancing knowledge (especially within a developing nation context) by paying attention to the issues of Industry 4.0 and the psychological contract. The contribution fits within the identified gaps in the Industry 4.0 literature (Li et al., 2020) and also considering the role of people in such a context (Dubey et al., 2019; Ivanov et al., 2019). Second, the study answers calls for an expansive understanding of the psychological contract (O'Donohue et al., 2018). The study does so by showing how the psychological contract is framed within an Industry 4.0 context. This becomes important especially considering the new way of working driven by technological advancement (Chung & Tijdens, 2013).

3.12 Implications for Organisational Practice

Given that the study is located within the HRM context, some implications can be made based on the findings of the research. There is a heightened focus and need to continually position the importance of the HRM within the Industry 4.0 context (Chinyamurindi, 2016; Suutari et al., 2018). Technological innovation features predominantly with Industry 4.0 but so should a focus on paying attention to people-related issues. This positions the importance not just of the HRM function but also issues such as the psychological contract. A priority and balance are needed for the realisation of benefits that accrue from technological innovation while also paying attention to people's issues and expectations. Some suggestions for interventions. First, there is a need to continually valuing the role of employees within the Industry 4.0 era. This can be done through efforts that show employees they are deemed critical in such a context. Second, there is a need for the HRM function to play a more prominent visible role in not only fighting for employee rights but also to be seen advancing a cause that promotes to make the work experience better. This is a balance that is needed bearing in mind concerns as expressed in this study around job security.

3.13 Limitations and Future Research

Some limitations and suggestions for future research can be noted in the study. First, the study is located within gauging expert opinion on the subject of Industry 4.0 and the psychological contract. The views of these experts are valued as they also represent a framing of an experience borrowing from participant experience. This can

also be a limitation. Future research can solicit the views of managers and employees working within the Industry 4.0 context and gauge their experiences. In essence, there is a need for an expansive focus in terms of the unit of analysis and also gauge the views of those working in the sector. Second, caution should be exercised when trying to generalise the findings of the research. Future research, using recently designed scales of 4IR attributes (Li et al., 2020) can measure these against already established measures of the psychological contract. This can be useful in advancing understanding objectively, considering the variables and the sector under-study. Further, future research can pick certain technological advancements with the Industry 4.0 era and link them with HRM-related constructs. For instance, Industry 4.0 technologies such as (a) the Internet of Things, (b) cloud computing, (c) big data, and (d) analytics (Li et al., 2020) may need to be linked to HRM-related constructs. This could be an avenue for future research.

3.14 Conclusion

In conclusion, the chapter gives focus to views and concerns experts have around the move towards Industry 4.0. Steps towards this industry are meant to assist in improving the competitiveness of South Africa. However, guided concerns should be considered bearing in mind the South African labour market environment. The HRM function can play an important role within such a context, especially paying attention to the role of the psychological contract. The findings, subjective as they are, representation a contribution from a community of experts in an area deemed important especially within a developing nation context. In such a context, empirical focus on the issues given attention to in this study has at best been under-researched.

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