

# **ELECTRONIC PERSONS IN CONTRACTS**

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## **SUMMARY**

Contemporary technological developments have already progressed far beyond the electronic and digital transactions recognised under the Electronic Communications and Transactions Act 25 of 2002 (ECTA). Internationally, there are calls for the regulation not only of robots and artificial intelligence (AI) but also of sophisticated automated electronic systems and AI that now have the capability to make self-sustainable decisions and exhibit human characteristics (conceptually referred to as electronic persons). The growing legal debate is whether such systems should be afforded equal (or similar) legal status to human beings and thereby have rights and be responsible for duties – that is, be afforded the mantle of legal personhood. Alternatively, should a different liability regime apply to these systems, their operators and creators? Europe has suggested both approaches. First, in 2016, the European Parliament's Committee on Legal Affairs included recommendations to the Commission on Civil Law Rules on Robotics that suggested that electronic persons should in the future be recognised as entities having legal status and legal personality. Secondly, in 2020, the European Parliament made recommendations to the Commission on a Civil Liability Regime for Artificial Intelligence, which proposed liability structures for these systems, their operators and creators. If legal recognition were afforded, as initially suggested in 2016, this would constitute something fundamentally different from juristic persons and would have a direct influence on the way contracts are concluded and their consequences. This article explores the concepts of legal status and personality from the perspective of recognised contractual parties (natural and juristic persons), as well as that of a conceptual electronic person, which may manifest itself as either a passive electronic person (more akin to a useful tool and currently recognised under ECTA) or as a sophisticated electronic person (more akin to human-like technology). In doing so, the article explores possible liability structures that could apply to electronic persons in the South African legal framework and concludes that there is a need to update ECTA (and other legislative instruments) so as to recognise and regulate sophisticated automated systems and electronic persons. A failure to do so may mean South Africa is left behind in the wake of technological developments, and may hamper future contractual engagements.

## 1 INTRODUCTION

Automated electronic systems have become a regular occurrence in electronic contracting. Generally, automated electronic systems may be categorised as passive, simply being tools used by their users and to which the principles of ownership and attribution would apply.<sup>1</sup> Some automated electronic systems may also be categorised as “sophisticated”, which means they are not subject to the constraints of ownership and attribution and are active role players within contractual engagements.<sup>2</sup> Sophisticated automated electronic systems are more akin to artificial intelligence (AI) and, broadly speaking, can be described as a computer program that is capable of human intelligence (including autonomous decision making), acting independently and having the ability to learn without human intervention.<sup>3</sup> In fact, Mgeladze and Gorgoshadze (referring to the work of Lehman-Wilzig) note that sophisticated technologies, such as AI, may exhibit inherently human characteristics such as curiosity, self-recognition, creativity, learning from mistakes, reproduction and general learning.<sup>4</sup> AI technologies, therefore, have the potential to mimic human behaviour.<sup>5</sup> If AI achieves this potential, in our understanding of the term, it may bring into question whether AI, by virtue of acting as a human being and displaying inherent human qualities, should be afforded equal (or similar) status and, like human beings, possess legal rights and duties. This possibility is not as far-fetched as one may initially think, nor is it science fiction; rather, this scenario has already been conceptually recognised in Europe with several legislative proposals to regulate AI – for example, the Artificial Intelligence Act,<sup>6</sup> and the European Parliament’s Committee on Legal Affairs’ recommendations to the Commission on Civil Law Rules on Robotics, more commonly known as the Civil Law Rules on Robotics (2016 Report).<sup>7</sup>

<sup>1</sup> Wagner “Robot, Inc.: Personhood for Autonomous Systems?” 2019 *Fordham Law Review* 591 592.

<sup>2</sup> Wagner (2019 *Fordham Law Review* 592) distinguishes sophisticated automated systems from passive automated systems, as sophisticated automated systems shed the yoke of ownership and attribution.

<sup>3</sup> Townsend “Software as a Medical Device: Critical Rights Issues Regarding Artificial Intelligence Software-Based Health Technologies in South Africa” 2020 *TSAR* 747 748. See also Mgeladze and Gorgoshadze “Applicability of Legal Regulations to High Artificial Intellect – Robots” 2019 *Journal of Constitutional Law* 51 51. See also art 3(b) of the European Parliament resolution of 20 October 2020 with Recommendations to the Commission on a Civil Liability Regime for Artificial Intelligence (2020/2014(INL)) [https://www.europarl.europa.eu/doceo/document/TA-9-2020-0276\\_EN.html](https://www.europarl.europa.eu/doceo/document/TA-9-2020-0276_EN.html) (accessed 2023-01-03) (2020 Report), in which the term “automated” in relation to artificial intelligence is defined to mean a system “that operates by interpreting certain input and by using a set of pre-determined instructions, without being limited to such instructions, despite the system’s behaviour being constrained by, and targeted at, fulfilling the goal it was given and other relevant design choices made by its developer”.

<sup>4</sup> Mgeladze and Gorgoshadze 2019 *Journal of Constitutional Law* 52.

<sup>5</sup> Townsend 2020 *TSAR* 748.

<sup>6</sup> Proposal for a Regulation of the European Parliament and of the Council Laying Down Harmonised Rules on Artificial Intelligence (Artificial Intelligence Act) and Amending Certain Union Legislative Acts <https://eur-lex.europa.eu/legal-content/EN/TXT/?uri=CELEX:52021PC0206> (accessed 2022-12-21).

<sup>7</sup> European Parliament Resolution of 16 February 2017 with Recommendations to the Commission on Civil Law Rules on Robotics (2015/2103(INL)) <https://www.europarl>.

The 2016 Report refers to the term “electronic person” and although there is not much clarity as to what exactly this term would entail, the 2016 Report suggests that, in future, such electronic persons may be recognised as entities attributed with legal status and legal personality. If an electronic person were to be elevated to enjoying personhood, as alluded to in the 2016 Report, the way in which such electronic persons would contract becomes a point of debate – specifically as to the way contractual liability would be attributed to such electronic entities. Against this background, this article considers the concept of electronic persons in contractual transactions with a specific focus on the possible attribution of contractual liability where one of the parties is an electronic person. In doing so, the article provides a glimpse into the complex future reality of contractual transactions, and argues that there is a need for proactive change within the South African legislative framework, including changes to the Electronic Communications and Transactions Act (ECTA),<sup>8</sup> so as to ensure that the South African legislative framework is fit for purpose for the inevitable future technological developments in contractual transactions.

## 2 THE BIRTH OF THE ELECTRONIC PERSON

### 2.1 Legal personality and status

The term “electronic person” (in the context of robots (or AI) being elevated to the status of a human being) was introduced in European legal discourse in the 2016 Report, which recommends that the Commission “explore, analyse and consider the implications of all possible legal solutions” in future legislative instruments so as to create (among other things):<sup>9</sup>

“[a] specific *legal status* for robots, so that at least the most sophisticated autonomous robots could be established as having the status of *electronic persons* with specific rights and obligations, including that of making good any damage they may cause, and applying *electronic personality* to cases where robots make smart autonomous decisions or otherwise interact with third parties independently.” (emphasis added)

The 2016 Report effectively recommends that sophisticated autonomous robots (SARs) be given some form of legal status (including being liable for damages caused); thus legal personality would be attributable to an artificial entity called an “electronic person”.<sup>10</sup> In 2020, the European Parliament’s Recommendations to the Commission on a Civil Liability Regime for Artificial Intelligence (2020 Report) did not pursue the concept of electronic personality further but rather provided clarity in relation to the liability structures in the use of AI.<sup>11</sup> Notwithstanding the 2020 Report, the status of SARs may still become a point of consideration with more complex and sophisticated technological developments on the horizon. Therefore,

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[europa.eu/doceo/document/TA-8-2017-0051\\_EN.html#title1](https://europa.eu/doceo/document/TA-8-2017-0051_EN.html#title1) (accessed 2022-12-21) (the 2016 Report).

<sup>8</sup> Act 25 of 2002.

<sup>9</sup> See par 31(f) of the 2016 Report.

<sup>10</sup> *Ibid.*

<sup>11</sup> See par 6 and 7 of the 2020 Report.

although electronic personality has not yet been legally realised, for the purpose of this discussion, the term “electronic person” is used when referring to SARs, which may include, for example, software programs, artificially intelligent systems, automated decision making, electronic agents and other manifestations of artificial intelligence, which may, under the 2016 Report, receive an elevated legal status. As electronic persons are currently devoid of legal personality (or so-called personhood), such entities lack legal rights, duties and recourse.<sup>12</sup>

The concepts “legal entity”, “legal personality” and “legal capacity” (or “legal status”) are not synonymous, but are distinct terms dealing with different aspects of the law. Take, for instance, a legal entity that may control assets but does not necessarily possess legal personality, as is the case with a trust. A trust possesses assets and liabilities but is not considered a separate legal personality;<sup>13</sup> there is, therefore, a distinction between the ownership of assets and the enjoyment of such assets.<sup>14</sup> Similarly, partnerships and voluntary associations of persons do not possess legal personality,<sup>15</sup> and consequently do not have legal standing to enforce rights; nor are such entities liable for juristic acts. As such, a trust, partnership and voluntary association do not have the legal capacity (or contractual capacity) to enter into a contract. Bilchitz also points out that non-human animals, who have always been considered things or objects, have also, to date, not been afforded the status of personhood and do not enjoy similar rights to their human counterparts.<sup>16</sup>

The term “personality” is derived from the Latin word *persona*, which the Romans attributed to a person’s legal and social role, both individually and as members of society.<sup>17</sup> Therefore, the functioning of legal personality has a social element, and one could argue is relational to a person’s engagement in society. Legal personality also refers to the capability of possessing rights and duties.<sup>18</sup> Thus, a person is said to have legal personality if he, she or it has by their nature, or has been conferred by law, the ability to own rights and owe duties in relation to others.<sup>19</sup> Thus, a person is someone (or something) who, in the eyes of the law, can have legal rights and is subject to legal duties.<sup>20</sup> To afford electronic persons legal status or legal personhood would mean that such a person would, at some level, be capable of having legal rights and be liable for legal duties. As legal personality and the term “person” is generally synonymous with that of a rights-and-duties-bearing unit, it would similarly apply to electronic persons.

<sup>12</sup> See also Bilchitz “Moving Beyond Arbitrariness: The Legal Personhood and Dignity of Non-Human Animals” 2009 *SAJHR* 38 38–72.

<sup>13</sup> *Raath v Nel* 2012 (5) SA 273 (SCA) par 13.

<sup>14</sup> *Ibid.*

<sup>15</sup> *Transnet Ltd t/a Metrorail v Rail Commuters Action Group* 2003 (6) SA 349 (SCA) par 3. See also *Strydom v Protea Eiendomsagente* 1979 (2) SA 206 (T).

<sup>16</sup> Bilchitz 2009 *SAJHR* 38–72.

<sup>17</sup> Andrade, Novais, Machado and Neves *Artificial Intelligence Law* (2007) 362 referencing Gonçalves 304.

<sup>18</sup> Andrade *et al Artificial Intelligence Law* 362.

<sup>19</sup> Smith “Legal Personality” 1928 *Yale Law Journal* 283 283.

<sup>20</sup> Hutchison, Van Heerden, Visser and Van Der Merwe *Wille’s Principles of South African Law* (1991) 145.

However, Bilchitz argues that such a rights-and-duties-bearing unit may relate to having either rights or duties, or having both rights and duties collectively depending on the context.<sup>21</sup> Therefore, although electronic persons have yet to be recognised as legal persons, and there have been calls to attribute legal personality to an electronic person,<sup>22</sup> should such status be bestowed on an electronic person, it will not necessarily have the same rights or duties as are assigned to a human being. The extent of an electronic person's rights and duties after receiving legal status remains unclear. However, it appears from the language used in the 2016 Report that Europe is considering the concept of electronic persons having both "rights and obligations, including that of making good any damage they may cause".<sup>23</sup> The full extent of such rights and duties has yet to be established and clarified. However, it also appears that, for the moment, Europe has in the 2020 Report refrained from attaching legal status to electronic persons, but has rather clarified the liability structures of SARs, their operators and creators.<sup>24</sup>

## 2.2 Types of persons

Generally, the law recognises two categories of persons, being natural and juristic persons. Natural persons are humans and, by virtue of their very existence, are recognised in the law as possessing legal capacity. For instance, under Roman law a person was considered a human being in the "widest sense of the word",<sup>25</sup> and possessed legal status and thereby legal personality.<sup>26</sup> Under Roman law, there was also a distinction made between different categories of persons – for example, freedmen and slaves had different rights and duties according to their different legal statuses. One could even say that human beings have certain characteristics that distinguish them from animals and other objects, and Wagner describes these characteristics as, for example, "intelligence, free will, consciousness, intentionality, and emotions".<sup>27</sup> If one were to argue that legal status and thereby legal personality is dependent on possessing human characteristics, then AI may well, in the future, illustrate these characteristics, and bring into question whether such characteristics, if evidenced in technology, would require the law to elevate such AI to legal personhood.<sup>28</sup> The 2016 Report certainly seems to suggest this. However, there are legal challenges, such

<sup>21</sup> See also Bilchitz 2009 *SAJHR* 42.

<sup>22</sup> Solum "Legal Personhood for Artificial Intelligences" 1992 *North Carolina Law Review* 1231–1287, which puts forward the possibility of attribution of legal personality to software programs. See also Karnow ("The Encrypted Self: Fleshing Out the Rights of Electronic Personalities" 1994 *John Marshall J Computer & Information Law* 1–16), who argues that electronic persons should be "able to own money and bank accounts, and they need to have access to credit". Karnow also proposes the term "eperson" at page 4 of his article, whereas the attribution of legal personality to smart autonomous robots was proposed in the 2016 Report 12.

<sup>23</sup> See par 31(f) of the 2016 Report.

<sup>24</sup> See par 6 and 7 of the 2020 Report.

<sup>25</sup> Cambell *A Compendium of Roman Law Founded on the Institutes of Justinian* (1878) 7.

<sup>26</sup> Cambell *A Compendium of Roman Law Founded on the Institutes of Justinian* 8.

<sup>27</sup> Wagner 2019 *Fordham Law Review* 594.

<sup>28</sup> *Ibid.*

as the extent of contractual liability that should be afforded to such electronic persons (among other things).

A juristic person, also referred to as an artificial or legal person, possesses legal status and a legal (or corporate) personality.<sup>29</sup> Juristic persons are created artificially by means of legal instruments and include, for example, companies, non-profit organisations and corporations recognised under the Companies Act,<sup>30</sup> as well as close corporations under the Close Corporations Act.<sup>31</sup> Legal personality, in this context, is a status assigned or determined by the law.<sup>32</sup> One may be tempted to group electronic persons under the same banner as just another type or category of juristic person. This would be inaccurate as juristic persons and electronic persons are characteristically different. Juristic persons are created by means of a legal fiction and have no will or intuition of their own,<sup>33</sup> but must act through natural persons in order to exercise the rights and duties afforded them by means of their legal personalities.<sup>34</sup> Watermeyer J puts it as follows:

“Unlike an individual, an artificial person can only function through its agents and it can only take decisions by the passing of resolutions in the manner provided by its constitution.”<sup>35</sup>

Therefore, juristic persons exist in a technical reality (or legal fiction),<sup>36</sup> being the

“[p]ersonification ... [of] a technical instrument designed, not only to provide a unified regulation of [hu]man’s multiple relations, but also to give a stable basis to tasks of common interest.”<sup>37</sup>

Although juristic persons deal with human interests,<sup>38</sup> juristic persons are certainly incapable of functioning like human beings. In this sense, juristic persons are different from sophisticated electronic persons, which, through the capabilities of AI, possess human-like qualities, intelligence and decision-making capabilities. It could be argued that sophisticated electronic persons have developed as a way of responding to ever-evolving social needs and thereby provide more efficient and reliable ways of undertaking

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<sup>29</sup> See, for e.g., *Cape Pacific Ltd v Lubner Controlling Investments (Pty) Ltd* 1995 (4) SA 790 (A) 803 and *Financial Mail (Pty) Ltd v Sage Holdings Ltd* 1993 (2) SA 451 (A), which refers to the concept of personality rights in the context of natural and artificial (or legal) persons. See also Bilchitz 2009 SAJHR 41.

<sup>30</sup> 71 of 2008.

<sup>31</sup> 69 of 1984. These artificial legal entities are created under the auspices of the Companies Act and the Close Corporations Act. These forms of legal person are artificially designed by a fiction of law and are vested with the capacity and ability to own rights, owe duties, and perform acts through the agency of natural persons. See also Yeats “Commentary on the Companies Act of 2008” 2020 *Jutastat e-publications* RS 1, 2020, Int-75.

<sup>32</sup> Dewey “Historic Background of Corporate Legal Personality” 1926 *Yale Law Journal* 655–656.

<sup>33</sup> Andrade *et al Artificial Intelligence Law* 362, referencing Gonçalves.

<sup>34</sup> Andrade *et al Artificial Intelligence Law* 363, referencing Fernandes.

<sup>35</sup> *Mall (Cape) (Pty) Ltd v Merino Ko -Operasie Bpk* 1957 (2) SA 347 (C) 351.

<sup>36</sup> Andrade *et al Artificial Intelligence Law* 362 referencing Gonçalves. See also Bilchitz 2009 SAJHR 41.

<sup>37</sup> Andrade *et al Artificial Intelligence Law* 363, referencing Gonçalves.

<sup>38</sup> Andrade *et al Artificial Intelligence Law* 363, referencing Fernandes.

certain actions that humans cannot sufficiently or economically perform on their own.<sup>39</sup>

Andrade suggests three criteria to assess whether an electronic person should be given legal personality.<sup>40</sup> The first is a patrimonial/personal component, which refers to the presence of a body and mind capable of reasoning and acting.<sup>41</sup> Sophisticated electronic persons generally operate within a physical structure (hardware) and have a logical (software) structure that makes them capable of reasoning, especially in the context of AI.<sup>42</sup> Juristic persons, in their current recognised form, do not possess such characteristics, but are personified through the existence of a patrimonial capability, flowing from the collective personality of the people behind them. In distinguishing individual personality and corporate personality, traditional legal theories considered the existence of a physical being with a will of its own.<sup>43</sup> Assessed along these lines, it may be said that the characteristics of sophisticated electronic persons are closer to human beings than those of juristic persons. This is because electronic persons have, or can have, a physical existence via their physical (hardware) elements and logical (software) elements, whereas juristic persons cannot.<sup>44</sup> Where a sophisticated electronic person is programmed to act independently, these devices may well be regarded as having (or at least capable of having) a will of their own, since they can perform tasks without human supervision or intervention.<sup>45</sup>

The second of the criteria is a teleological component, which implies that an electronic person serves a certain purpose or plays a relevant role, which must be clearly defined or identifiable, legal, and enduring as a wider purpose than simply serving a single instantaneous act.<sup>46</sup> Considering the underlying software component and programming of electronic persons, it is not too-far a stretch of the imagination to see how electronic persons may also satisfy this requirement.

The third of the criteria is an intentional component, which includes the need for legislative instruments to recognise electronic persons as new legal beings and afford them legal status.<sup>47</sup> In other words, it requires legislative intervention to recognise electronic persons as legal entities with legal personality. Considering the 2020 Report, there appears to be little political and legal will, at this stage, to achieve the intentional component to recognising electronic persons. Similarly, in South Africa, ECTA, the Close Corporations Act and the Companies Act neither contemplate nor recognise electronic persons as legal entities that possess legal personality. Therefore, as it stands, Andrade's third requirement remains unfulfilled in the South African context. Nevertheless, to remain legislatively relevant with the

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<sup>39</sup> Andrade *et al Artificial Intelligence Law* 364.

<sup>40</sup> *Ibid.*

<sup>41</sup> *Ibid.*

<sup>42</sup> *Ibid.*

<sup>43</sup> Andrade *et al Artificial Intelligence Law* 363 referencing Gonçalves.

<sup>44</sup> See Andrade *et al Artificial Intelligence Law* 364.

<sup>45</sup> Solum 1992 *North Carolina Law Review* 1231–1287.

<sup>46</sup> Andrade *et al Artificial Intelligence Law* 365.

<sup>47</sup> *Ibid.*

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technological advances in AI and robots, South Africa will be required to consider current legislative machinery to accommodate either the concept of electronic persons as contemplated in the 2016 Report, or the liability structures of such electronic persons as contemplated in the 2020 Report.

### **3 CONTRACTUAL LIABILITY OF AN ELECTRONIC PERSON**

#### **3 1 Introductory comments**

Technology in contracts is becoming a common phenomenon and the use of automated electronic transactions is increasing as computers, telecommunications and evolutions in the field of AI have allowed many aspects of contractual roles to be delegated to passive electronic persons. Despite such delegated roles, the principle of privity of contract underscores contracts and such passive electronic persons are often considered a mere tool of the user, and not a party to the contract (see heading 3 3 below). This notion is reinforced by section 20 of ECTA. Coetzee notes that the scope of section 20 relates to “electronic data interchange messages, online purchase forms or digital shopping carts”.<sup>48</sup> Coetzee goes further to argue that the purpose of section 20 of ECTA is to ensure that contracts generated automatically (as a result of an electronic agent) are just as binding as those entered into directly with the supplier.<sup>49</sup> Therefore, passive electronic agents are simply tools used by suppliers in electronic contracts; but their use has challenges, which Erlank and Ramokanate sum up as follows:<sup>50</sup>

“If a message was garbled on transmission, so that it reaches the other party stating different terms all together, a court had the luxury of choosing to enforce the contract on the original telegram or the garbled version – that is of course if the court was convinced that there was a valid contract despite the telegraphic error. In automated transactions, messages are authored by systems without any human review. If the automated message system in issue is highly autonomous, it becomes very hard to predict its behaviour, which means in turn that the user will be unable to tell what the software would or should have said or done, had it not malfunctioned. In this way, a court will be limited to only two options, either to hold that there is a contract despite the malfunction, or that there is no contract by reason of the malfunction.”

As passive electronic persons develop and evolve into their sophisticated counterparts, based on AI and mimicking human behaviour and thinking, so too will the legal issues evolve. In the case of sophisticated electronic persons, the question is with whom does a consumer contract, and consequently who will be held liable for the enforcement of the contract and damages? Sophisticated electronic persons, if adorned with legal personhood, would become the contracting entity and thereby have legal status to claim rights and be responsible for damages that flow from such

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<sup>48</sup> Coetzee “The Electronic Communications and Transactions Act 25 of 2002: Facilitating Electronic Commerce” 2004 *Stell LR* 501 517.

<sup>49</sup> *Ibid.*

<sup>50</sup> Erlank and Ramokanate “Allocating the Risk of Software Failures in Automated Message Systems (Autonomous Electronic Agents)” 2016 *SA Merc LJ* 201 203–204.

contractual damages. It is the focus of this article to explore contractual liability structures in the current South African legal regime, as well as contemporary theories as they may apply to electronic persons.

### 3 2 Basis for contractual liability

South African contractual liability is generally established by means of a two-pronged approach. The first is the application of the subjective test (also known as the will theory or intention theory),<sup>51</sup> in terms of which one establishes whether consensus exists between the contracting parties. For consensus to be achieved, three requirements must be met: *animus contrahendi* (being the serious intention to contract); agreement about the material terms of the agreement; and, the parties must be *ad idem*.<sup>52</sup> If these requirements have been met, as well as all the other requirements for a valid contract, then a contract would be formed and the contracting parties would be bound by the terms of the contract.<sup>53</sup> Owing to the nature of digital contracting, it would be difficult to satisfy the subjective test of the will theory, or more accurately to establish a subjective intention in an electronic person. Therefore, the objective tests to establish contractual liability appear more viable under these circumstances.

The second part of the two-pronged approach considers situations where consensus was absent or cannot be established, but where, through the conduct of one of the contracting parties, an impression is created that there is indeed consensus.<sup>54</sup> In this instance, contractual liability will be imputed on the strength of the reliance theory.<sup>55</sup> A party may, however, escape such liability in instances of *iustus error* (a reasonable and material mistake).<sup>56</sup> The reliance theory may be workable in contracts concluded with electronic persons as it is more objective in nature. However, the electronic person would be required to have legal personality to be an actual party to the contract.

There is a third theory, according to which contractual liability is attributed to the parties based on the objective forming of a contract. The declaration theory considers the form of the agreement, rather than the subjective intention of the parties.<sup>57</sup> Essentially, it is a person's expression or declaration of intent that is used to establish contractual liability.<sup>58</sup> Although the declaration theory may solve the problem of consent and consensus required under the will theory, it can create harsh realities in which persons

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<sup>51</sup> Pretorius "The Basis of Contractual Liability (2): Theories of Contract (Will and Declaration)" 2005 *THRHR* 441 442.

<sup>52</sup> Pretorius (2005 *THRHR* 443) notes that the elements of consensus include consensus regarding the consequence of the agreement, being legally bound to the agreement and awareness of the agreement itself.

<sup>53</sup> Pretorius 2005 *THRHR* 442.

<sup>54</sup> Pretorius "The Basis of Contractual Liability in South African Law (3)" 2004 *THRHR* 549 556.

<sup>55</sup> *Ibid.*

<sup>56</sup> Pretorius 2004 *THRHR* 557.

<sup>57</sup> Pretorius 2005 *THRHR* 457.

<sup>58</sup> Pretorius 2005 *THRHR* 457–478.

are bound to a contract that they neither wanted nor agreed to.<sup>59</sup> In other words, little or no consideration is given to consensus – only the formal representation of the agreement counts. Van Deventer argues that there seems to be more support for objectively determining contractual liability when dealing with electronic contracting.<sup>60</sup> Although Van Deventer's arguments come from the perspective of a consumer entering into an online contract, similar arguments may be used for electronic persons.

Ultimately, an electronic person would first have to be afforded legal personality before any of these theories would be applicable. Therefore, the debate on the applicable theory to establish contractual liability is purely academic at this stage. However, contractual liability in the context of electronic persons attracts additional considerations and there is the need to ensure a fair allocation of the risks and liabilities that arise from the use of autonomous intelligent systems.<sup>61</sup> Some of the proposed theories put forward are the risk theory, tool theory and agency theory, each of which are discussed below.

### 3 3 Risk theory

The risk theory applies predominantly to passive electronic persons and attaches risks to the user in cases of malfunctions or incorrect messages communicated by means of electronic structures and appears to be the basis of liability contemplated in the 2020 Report.<sup>62</sup> The risk theory is closely linked to the tool theory (discussed under heading 3 4 below). However, the risk theory relates more to the allocation of risk than to the functioning of the electronic person. Steyn explains the risk theory as follows:<sup>63</sup>

“Where a party chooses a specific method of communication or a messenger, or an intermediary, for the communication of his [or her] offer to the other party and such offer becomes distorted or garbled in its transmission, so that the offer is communicated to the other party incorrectly, in spite of the absence of fault on the part of the first party, he [or she] must bear the loss on the basis that he [or she] bears the risk of using that method of communication or a messenger or intermediary. The same applies to communication of acceptance.”

Effectively, the risk theory allocates liability that flows from the use of a chosen medium of communication to the person who opted to use that particular medium.<sup>64</sup> In other words, the risks and liability of using autonomous systems lie with the originator or user of that system, since they made the conscious choice to use that system.<sup>65</sup> As such, the consequences

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<sup>59</sup> Pretorius 2005 *THRHR* 459.

<sup>60</sup> Van Deventer “Problems Relating to the Formation of Online Contracts: A South African Perspective” 2021 *SALJ* 221.

<sup>61</sup> See the 2016 Report.

<sup>62</sup> See the 2020 Report.

<sup>63</sup> Steyn *A Critical Appraisal of the Decision in Sonap v Pappadogianis* 1992 (3) SA 234 (A) 33, *With Reference to the Basis of Contractual Liability in South African Law and Various Other Legal Systems* (LLM dissertation, University of South Africa) 1994 33.

<sup>64</sup> *Ibid.*

<sup>65</sup> *Ibid.*

of all unforeseen communications and actions of a passive electronic person are borne by the user.

The risks associated with contracting with electronic persons have not yet been fully realised. However, some of the risks related to automatic electronic transactions were summarised by Erlank and Ramokanate, who noted:

“When the malfunction of an automated message system leads to a contract, one way of dealing with the matter would be to identify how risk is to be allocated between the programmer, the user of the electronic agent and the third party who, innocently or otherwise, concluded an agreement with the electronic agent.”<sup>66</sup>

Erlank and Ramokanate also note that the traditional manner of addressing these risks is through exemption clauses, indemnities and disclaimers.<sup>67</sup> Although such exemption clauses, indemnities and disclaimers may be suitable for passive electronic persons, as they will protect the owner, user and programmer of such software from damages claims, they may be extended to sophisticated electronic persons, where they have been endowed with legal personality.

Nonetheless, Pretorius also observed that the risk theory is too poorly developed in South African law to suffice as a basis for contractual liability.<sup>68</sup> Thus, it remains to be seen whether the theory would be applied as a basis for contractual liability in automated transactions in South Africa.

### 3 4 Tool theory

Similar to the risk theory, the tool theory views electronic persons as tools of communication akin to telephones, fax machines or other electronic communication devices.<sup>69</sup> As such, electronic persons are considered to be a medium of their intentions.<sup>70</sup> Since a tool has no decision-making capabilities of its own, the consequence of this theory is that any liability flowing from the actions of electronic persons is attributed to the person who deployed, or used, or is the beneficiary of the actions of the electronic persons. The tool theory can then be described as giving effect to the principle of attribution, which is echoed in section 20 of ECTA and can be

<sup>66</sup> Erlank and Ramokanate 2016 *SA Merc LJ* 202.

<sup>67</sup> Erlank and Ramokanate 2016 *SA Merc LJ* 203.

<sup>68</sup> Pretorius “MEC for Economic Affairs, Environment and Tourism, Eastern Cape v Kruizenga 2008 6 SA 264 (Ck) MEC for Economic Affairs, Environment and Tourism, Eastern Cape v Kruizenga 2010 4 SA 122 (SCA)” 2011 *De Jure* 13 <https://www.dejure.up.ac.za/images/files/vol44-1-2011/MEC%20for%20Economic%20Affairs%20v%20Kruizenga.pdf> (accessed 2022-12-26).

<sup>69</sup> Chopra and White “Artificial Agents and the Contracting Problem: A Solution via an Agency Analysis” 2009 *University of Illinois Journal of Law, Technology and Policy* 363 370–371; Weitzenboeck “Electronic Agents and the Formation of Contracts” 2001 *International Journal of Information, Law and Technology* 204 214.

<sup>70</sup> Cross “Agency, Contract and Intelligent Software Agents” 2003 *International Review of Law, Computers and Technology* 175 180; Blake and Eymann “The Conclusion of Contracts by Software Agents in the Eyes of the Law” (2008) Conference Paper 771 773 [https://www.researchgate.net/publication/221456172\\_The\\_conclusion\\_of\\_contracts\\_by\\_software\\_agents\\_in\\_the\\_eyes\\_of\\_the\\_law](https://www.researchgate.net/publication/221456172_The_conclusion_of_contracts_by_software_agents_in_the_eyes_of_the_law) (accessed 2022-12-26).

argued to be the default theory in South African law. ECTA refers to electronic persons as electronic agents and notes that

“a party using an electronic agent to form an agreement is ... presumed to be bound by the terms of that agreement irrespective of whether that person reviewed the actions of the electronic agent or the terms of the agreement.”<sup>71</sup>

However, the use of the term “electronic agent” is not the same as agency (which is discussed under heading 3 5 below) and the principles that underscore the tool theory are fundamentally different from the agency theory. In the tool theory, the user’s actions are conveyed through the electronic persons, whereas the agency theory states that electronic persons act on behalf of the user.<sup>72</sup> The justification for the agency theory stems from the fact that electronic persons are taught how to perform tasks via their programming,<sup>73</sup> and are essentially computer programs with a set of instructions that spell out what they must do in a given scenario and how they should perform a task.<sup>74</sup> These sets of instructions are drafted by a programmer, who determines what the software should achieve, and, after making that determination, encodes the same instructions into computer-readable language.<sup>75</sup> Every program, therefore, comprises a set of bespoke instructions, carefully tailored to ensure the realisation of a predetermined outcome.

For purposes of the present discussion, the most relevant actor involved in programming is the programmer who decides what the program should achieve, and who encodes the decision into a machine-readable language. First, the programmer drafts these instructions into a text called the source code, and then translates it into an object code (which is the language a computer can understand).<sup>76</sup> Once this is done, the programmer’s instructions become executable by the electronic person.<sup>77</sup> Thus, a program directs an electronic person’s operations in that, when the program is run, it causes the electronic person to perform those actions as directed by the programmer’s instructions. From a legal perspective, these instructions embody the programmer’s will and intentions. In the case of electronic persons, these instructions invariably comprise, *inter alia*, the terms on which the electronic persons should conclude agreements with third parties, and by which actions or operations those agreements should be

<sup>71</sup> S 20(c) of ECTA.

<sup>72</sup> See Weitzenboeck 2001 *International Journal of Information, Law and Technology* 217.

<sup>73</sup> Alheit *Issues of Civil Liability Arising From the Use of Expert Systems* (doctoral thesis, University of South Africa) 1997 57.

<sup>74</sup> Pfaffenberger *Quo’s Computer and Internet Dictionary* 5ed (1995) 423.

<sup>75</sup> See Pfaffenberger *Quo’s Computer and Internet Dictionary* 95 for a detailed discussion of the various stages and processes of programming.

<sup>76</sup> In *Haupt t/a Soft Copy v Brewers Marketing Intelligence (Pty) Ltd* 2005 (1) SA 398 (C) 410G–H, Erasmus J distinguishes between a source code and object code as follows: “The source code of a computer program is a textual description of the program, written in a programming language. The source code is not directly executable by a computer, and must first be converted into an object code which is ‘machine readable’, either by passing it through a compiler or loading it into an interpreter that translates and executes it one statement at a time.”

<sup>77</sup> *Ibid.*

concluded.<sup>78</sup> As such, electronic persons on their own never attempt a contracting act, let alone enter into a contract by themselves – unless they were programmed to do so.<sup>79</sup> Thus, at the heart of every operating system is the intention of a programmer who may be acting on their own account or as an agent of the user (or owner) of the computer program. It is this reasoning that justifies the attribution of an electronic person's actions to its originator. The tool theory, when applied to the contract process, leads to the inevitable conclusion that contracts may be formed using electronic persons as mediums of expressing the parties' will and intentions, since the parties have a foreknowledge of the terms of those contracts, and they had the required intention to be bound by the contracts entered into by electronic persons. In other words, the user is deemed to have the intention to be bound by the contract concluded by the electronic persons deployed by them, since they consciously chose to use those electronic persons.<sup>80</sup> This is referred to as a "programmed intention".<sup>81</sup> It is possible to identify the consensus required for contract formation under the tool theory if the electronic persons involved properly execute the terms spelt out in the program. It is for this reason that, aside from instances of system malfunction, contracts concluded by electronic persons under the tool theory are attributed to the originator or user of the system.

The tool theory, therefore, notes that autonomous systems, such as electronic persons, are nothing more than tools to carry out human tasks. The case of *Kgopana v Matlala* may illustrate how the tool theory works practically.<sup>82</sup> In this matter, messages were exchanged by means of the WhatsApp messenger platform, and within these messages were offers and acceptances.<sup>83</sup> One may say that the technology used to exchange this information was a tool that the parties used to communicate with each other. Although the court eventually found that there was no *animus contrahendi* and therefore no binding agreement,<sup>84</sup> the case does illustrate the core principles of the tool theory – namely, that technology was used for a predetermined function as a tool for communication by its users and nothing more. What makes the facts in *Kgopana v Matlala* case different to sophisticated electronic persons is that the parties who sent the messages in this case were natural persons, whereas a sophisticated electronic person may send messages without the knowledge or consent of a natural person. This state of awareness may be assumed where the system acts in consonance with the laid-down programming and is supported by section 20

<sup>78</sup> See also Erlank and Ramokanate 2016 *SA Merc LJ* 204–205 as it relates to automated transactions.

<sup>79</sup> *Ibid.*

<sup>80</sup> Gringras *The Laws of the Internet* (2003) 41–42; Kerr "Bots Babes and the Californication of Commerce" 2003–2004 *University of Ottawa Law and Technology Journal* 287 294; Allen and Widdison "Can Computers Make Contracts?" 1996 *Harvard Journal of Law and Technology* 26 46; Mik "Certainty at Last? A 'New' Framework for Electronic Contracting in Singapore" 2013 *International Journal of Commercial Law and Technology* 160 174; Dahiyat "Intelligent Agents and Intentionality: Should We Begin to Think Outside the Box?" 2006 *Computer Law and Security Review Journal* 472 473.

<sup>81</sup> *Ibid.*

<sup>82</sup> *Kgopana v Matlala* 2019 JDR 2365 (SCA).

<sup>83</sup> *Ibid.*

<sup>84</sup> *Kgopana v Matlala supra* par 12.

of ECTA. It is clear that the electronic persons covered by the tool theory are not AI and do not possess a will of their own and simply perform the predefined and predetermined instructions of their creator. It goes without saying that the person who set the machine in motion ought to be held liable for its actions, just as they benefit from the autonomous actions of the machine. The shortcoming of this theory is that it does not sufficiently address liability in instances where systems malfunction and carry out actions that differ from the author's original desires and intentions in an unforeseeable manner (which is the focus area in the risk theory discussed under heading 3.3 above). The reason for this is that the underlying theoretical justification for the tool theory is that electronic persons merely act on the instructions of their creators to achieve predetermined outcomes. The tool theory is therefore unsuitable for dealing with instances where the system either malfunctions and therefore does not carry out the programmed intention, or where it is able intelligently to reach independent decisions of its own (as is the case with AI-powered systems). The use of the tool theory can also be criticised as failing to attain the standard of conscious consent required as a ground for establishing consensus for the same reasons. This can be compared with the *Bloom v American Swiss Watch* case,<sup>85</sup> where an act of acceptance was performed without knowledge of the offer, which, in the absence of knowledge of the offer was incapable of acceptance.<sup>86</sup> This is to say, in the moment that an act is being done, the person should have had a state of awareness of the terms being agreed to.<sup>87</sup>

The tool theory is then most appropriate for passive electronic agents as contemplated under ECTA, but is inappropriate for sophisticated electronic persons. The tool theory would also not align with the concept of attaching legal personality and status to electronic persons as contemplated in the 2016 Report. Therefore, it is not a valid contender for establishing liability in contractual transactions for sophisticated electronic persons although it works well with the current stage of technological development for passive automated electronic transactions.

### 3.5 Agency theory

The agency theory has been defined in several ways by different authors.<sup>88</sup> However, the common thread is the legal relationship that underscores the engagement between two parties. One party is considered to be the agent who acts as a representative of another party, being the principal. There is growing recognition in both academic commentary and e-commerce

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<sup>85</sup> *Bloom v The American Swiss Watch Company* 1915 AD 100.

<sup>86</sup> See a similar example and discussion in Erlank and Ramokanate 2016 *SA Merc LJ* 215–216.

<sup>87</sup> *Ibid.*

<sup>88</sup> De Wet ("Agency and Representation" in Joubert (ed) *The Law of South Africa Vol 1* (1976) par 101) states that "[t]he expression 'agency' is used in such a wide variety of meanings that it cannot be regarded as a term of art denoting a specific branch of the law". Also see Ryder, Margaret and Singh *Commercial Law: Principles and Policy* (2012) 3, where it is stated that "it is virtually impossible to provide a clear all-embracing definition of agency".

legislation of such an agency structure in relation to electronic persons.<sup>89</sup> The proposition is that electronic persons act as agents and do everything in furtherance of the human principal behind the scenes.<sup>90</sup> The agency theory differs from the tool theory in that the electronic person's conduct is regarded as acting on behalf of its human principal, whereas the tool theory regards the electronic person's actions as the extension of humans, who use the electronic persons as a tool. The shortcoming with the agency analogy is that an agent is generally expected to be a person, possessing a will, intellect and discretion that can be exercised on the principal's behalf.<sup>91</sup>

The South African law of agency is a combination of Roman-Dutch and Anglo-American principles.<sup>92</sup> An agent thus represents another person (called the principal) and concludes juristic acts on the principal's behalf.<sup>93</sup> According to Holmes and Symeonides, two concepts underpin representation. The first is the capacity to have rights and duties (legal personality) and the second is the capacity to perform juridical acts (contractual capacity, for our purposes).<sup>94</sup> Although the original purpose of representation was to protect the interests of persons who themselves lacked the capacity to perform juridical acts,<sup>95</sup> it has grown to accommodate the right of people (who themselves possess the requisite capacity) to delegate others to act as their representatives.<sup>96</sup> If legal personality and contractual capacity underlie the concept of representation, then any attempt to apply the theory of agency to electronic persons must be assessed against the capability of electronic persons to have legal status (contractual capacity) and legal personality (as discussed under heading 2 above).

<sup>89</sup> Fischer "Computers as Agents: A Proposed Approach to Revised U.C.C. Article 2" 1997 *Indiana Law Journal* 545 570; Cross 2003 *International Review of Law, Computers and Technology* 189; Chopra and White 2009 *University of Illinois Journal of Law, Technology and Policy* 403; Wettig and Zehendner "A Legal Analysis of Human and Electronic Agents" 2004 12 *Artificial Intelligence and Law* 111 111–135. These authors offer a comparative analysis of the similarities between human and electronic agents.

<sup>90</sup> *Ibid.*

<sup>91</sup> See Reynolds, Bowstead and Watts *Bowstead and Reynolds on Agency* (2021); Fridman *The Law of Agency* (1996) 11; Jensen and Meckling "Theory of the Firm: Managerial Behavior, Agency Costs and Ownership Structure" 1976 *Journal of Financial Economics* 305 308; Dannemann and Schulze *German Civil Code (BGB) Vol. 1 Books 1–3 Article by Article Commentary* (2020) 217–220.

<sup>92</sup> Glover "Agency in South Africa: Mapping Its Defining Characteristics" 2021 *Acta Juridica* 243–244. See also Visser, Pretorius, Sharrock and Van Jaarsveld *Gibson's South African Mercantile & Company Law* (2008) 200.

<sup>93</sup> Hutchison *et al Wille's Principles of South African Law* 593; De Wet in Joubert *The Law of South Africa Vol 1* par 102.

<sup>94</sup> Holmes and Symeonides "Representation, Mandate and Agency: A Kommentar on Louisiana's New Law" 1993 *Tulane Law Review* 1087 1092–1093; Havenga "Decision-Making by and for People with a Decision-Making Disability" 2002 *Australia Law Reform Commission Journal* 47 50.

<sup>95</sup> Holmes and Symeonides 1993 *Tulane Law Review* 1087 1092–1093.

<sup>96</sup> Ramokanate (*Modifying Contract Law Principles to Accommodate Automated Transactions in South Africa* (doctoral thesis, North-West University) 2018 62, citing De Villiers and Macintosh *The Law of Agency* (1981) asserts that this type of representation is founded on consensus and is known as conventional representation. The term "agent", as used now, mainly refers to this type. There is however also juristic representation created more by operation of law (e.g., officers of a company being designated by law to act on behalf of the company).

There are, however, different schools of thought regarding how the agency relationship may be created,<sup>97</sup> although only the two most prominent theories applicable in the South African context are discussed here. These are the consent theory and the power/liability theory. Glover argues that both these theories have support in South Africa.<sup>98</sup> The consent theory posits that agency may be created by means of a contract between principal and agent.<sup>99</sup> In other words, the consent theory is internally focused on the contractual relationship between agent and principal.<sup>100</sup> Glover points out that the benefit of this theory is that it embraces the “relational nature of agency” and is most akin to the liability structures that form part of an agency arrangement.<sup>101</sup> However, Glover also notes that, as this theory is internally focused, it does not sufficiently consider third-party engagements.<sup>102</sup> The issue of how the agency relationship arises is important in assessing the applicability of the theory to electronic persons. For instance, if an agency arises only by contract, then certain preliminary issues become a factor, such as, whether the electronic person possesses the requisite contractual capacity, and consequently whether the electronic person is capable of consensus (or *animus contrahendi*) to conclude such a contract. However, that said, there are instances in South African law where agency has been recognised despite a lack of consensus. Glover uses the examples of apparent (or ostensible) authority, estoppel and ratification to illustrate agency without consensus.<sup>103</sup> This still does not overcome the issue of legal capacity; unless an electronic person has been legally recognised as possessing legal personality, the application of agency would be limited owing to the limited legal nature of electronic persons.

The second theory is the power/liability theory in which agency is created by the conferral of authority on the agent by a unilateral act of the principal.<sup>104</sup> The principal confers authority on an agent and the issue of a contract between the parties is secondary in the power/liability theory.<sup>105</sup> Therefore, this theory has been described as being externally focused,<sup>106</sup> and the agent’s authority may either be expressly communicated to the

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<sup>97</sup> Glover (2021 *Acta Juridica* 245) highlights that the vicarious liability theory for agency does not find much support academically. As the consent and power/liability theory is generally used and accepted in South Africa, focus will be placed on these theories in our discussion.

<sup>98</sup> Glover 2021 *Acta Juridica* 250–251.

<sup>99</sup> Glover 2021 *Acta Juridica* 246. See also Coaker and Zeffertt (*Wille and Millin’s Mercantile Law of South Africa* (1984) 457), who state that “the contract of agency arises, like every other contract, from the union of free wills of the parties to a common purpose”. See also Visser *et al Gibson’s South African Mercantile & Company Law* 200.

<sup>100</sup> Glover 2021 *Acta Juridica* 249.

<sup>101</sup> Glover 2021 *Acta Juridica* 246.

<sup>102</sup> *Ibid.*

<sup>103</sup> *Ibid.*

<sup>104</sup> See *Totalisator Agency Board, OFS v Livanos* 1987 3 SA 283 (W) par 291B–F; and Visser *et al Gibson’s South African Mercantile & Company Law* 200.

<sup>105</sup> Glover 2021 *Acta Juridica* 248–249. In *Freeman and Lockyer v Buckhurst Park Properties (Manga) Ltd* [1964] 1 ALL ER 630 644, Lord Diplock defined actual authority as “[a] legal relationship between principal and agent created by a consensual agreement to which they alone are parties”. It was also stated in that case that the existence of actual authority presupposes the existence of a consensual relationship between the respective parties. See also Fridman *The Law of Agency* 53.

<sup>106</sup> Glover 2021 *Acta Juridica* 249.

agent by the principal or implied by law, depending on the circumstances of the case.<sup>107</sup> Expressly conferring actual authority on an agent may be done verbally or in writing via (for instance) a power of attorney.<sup>108</sup> Corbett JA, in *Joel Melamed and Hurwitz v Cleveland Estates (Pty) Ltd; Joel Melamed and Hurwitz v Vornor Investments (Pty) Ltd*,<sup>109</sup> also states that the evidence of the conferral of authority is usually found in a contract.<sup>110</sup> Apparent (or ostensible) authority, on the other hand, arises when a principal creates a general appearance to the public that a person has the authority to carry out certain actions in the principal's name or to act on the principal's behalf.<sup>111</sup> Such apparent authority need not, for example, meet the requirements of estoppel but the impression created by the principal is sufficient for apparent authority to exist.<sup>112</sup> Beyond these examples, the law may also confer such authority by means of estoppel and ratification.<sup>113</sup> The shortcoming of the risk/liability theory is that it does not take into account the consent that is often required to act as an agent.<sup>114</sup>

Glover argues that both the consent theory and the power/liability theory are completely reconcilable in South Africa, as they are two sides of the same coin and reflect different aspects of agency.<sup>115</sup> Therefore, when considering the application of agency to electronic persons, consideration must be given to both an ontological element (being the application of the power/liability theory) and a normative element (the application of the consent theory).<sup>116</sup> At a normative level, there must be some sort of agreement between agent and principal in which a principal authorises the agent to perform a juristic act on behalf of the principal.<sup>117</sup> When dealing with passive electronic persons, such consent is not possible, as passive electronic persons are considered mere tools (as discussed under heading 3.3 above). When dealing with sophisticated electronic persons, such consent is currently also not possible, as electronic persons are not yet endowed with legal personhood. It is also worth noting that the language used in ECTA is a misnomer, as the term "electronic agent" does not refer to an agent in the true sense of the word. The definition of an electronic agent is, however, wide enough to contemplate electronic persons in that it refers to "a computer program or an electronic or other automated means used

<sup>107</sup> See Fridman *The Law of Agency* 33; *Hely-Hutchinson v Brayhead Ltd* [1968] 1 QB 549.

<sup>108</sup> Visser *et al Gibson's South African Mercantile & Company Law* 201. See also *Maasdorp v The Mayor of Graaff-Reinet* 1915 CPD 639, where Kotzèr J mentioned that "an agent may be lawfully or duly appointed or accredited by deed, power of attorney, by simple writing, by word of mouth, or even by signs".

<sup>109</sup> 1984 3 SA 155 (A).

<sup>110</sup> *Joel Melamed and Hurwitz v Cleveland Estates (Pty) Ltd; Joel Melamed and Hurwitz v Vornor Investments (Pty) Ltd supra* 166C–D. Van Zyl J also affirms this position in *Totalisator Agency Board, OFS v Livanos supra* 219 B–F.

<sup>111</sup> *Makate v Vodacom Ltd* 2016 (4) SA 121 (CC) par 42–59.

<sup>112</sup> *Ibid.*

<sup>113</sup> See Fridman *The Law of Agency* 98; Hutchison *et al Wille's Principles of South African Law* 598.

<sup>114</sup> Glover 2021 *Acta Juridica* 249.

<sup>115</sup> Glover 2021 *Acta Juridica* 252.

<sup>116</sup> Glover (2021 *Acta Juridica* 252) describes the ontological element as the internal workings of agency, often dealing with practical considerations, whereas the normative element is described as the justification for forming the agency relationship in the first place.

<sup>117</sup> Glover 2021 *Acta Juridica* 253–354.

independently to initiate an action or respond to data messages or performances in whole or in part, in an automated transaction.”<sup>118</sup> Closely linked is the term “automated transaction”, which is defined as

“an electronic transaction conducted or performed, in whole or in part, by means of data messages in which the conduct or data messages of one or both parties are not reviewed by a natural person in the ordinary course of such natural person’s business or employment.”<sup>119</sup>

However, these definitions fail on a normative level of agency as electronic persons do not possess the capability to provide the requisite consent to form a contract of agency.<sup>120</sup>

At an ontological level, the owner may certainly create the impression that electronic persons have the authority to act on their behalf in automated electronic transactions. The characteristic feature of sophisticated electronic persons is after all to act autonomously. They possess similar characteristics to human beings, may act independently of their creators and users, and could in sophisticated scenarios stand in for their users by negotiating and concluding contracts on their behalf, just as human agents do.<sup>121</sup> These scenarios may very well meet the requirements at an ontological level of agency.

Yet, there remains the risk that an agent exceeds their original mandate, in which case the principal would not be liable except in instances of ostensible authority, estoppel and ratification.<sup>122</sup> Similarly, the risks exist that electronic persons may exceed their original mandate, and generate offers and acceptances that were unforeseen and unintended by the user.<sup>123</sup> Lack of legal personality, therefore, complicates the possibility of making electronic persons the subject of an agency relationship, as electronic persons are currently incapable of consenting to the relationship; and also, electronic persons lack assets against which liabilities arising from their actions may be charged. Thus, electronic persons cannot be held liable for losses arising out of a breach of their agency duties in the same way that a human agent can be. These difficulties have in many instances fuelled the call to award legal personality to electronic persons and may require consideration of a new type of juristic entity to accommodate electronic persons.<sup>124</sup> The agency theory falls short of the liability structures of

<sup>118</sup> S 1 of ECTA. According to Erlank and Ramokanate (2016 *SA Merc LJ* 201–202), the term “electronic agents” closely resembles their human counterparts.

<sup>119</sup> S 1 of ECTA.

<sup>120</sup> See also a further example of the concept of consensus in contracts of agency in *Cean Cargo Line Ltd v F R Waring (Pty) Ltd* 1963 (4) SA 641 (A).

<sup>121</sup> Koops, Hildebrandt and Jaquet-Chiffelle (“Bridging the Accountability Gap: Rights for New Entities in the Information Society?” 2010 *Minnesota Journal of Law, Science and Technology* 497 538) argue that “(autonomous) electronic agents do more than just transport messages; they influence the terms of the contract and are therefore not mere messengers”.

<sup>122</sup> See also, as an example, *Glofinco v Absa Bank Ltd t/a United Bank* 2002 (6) SA 470 (SCA); *South African Eagle Insurance Co Ltd v NBS Bank Ltd* 2002 (1) SA 560 (SCA); *Makate v Vodacom Ltd supra*.

<sup>123</sup> See Kerr “Ensuring the Success of Contract Formation in Agent-Mediated Electronic Commerce” 2001 1 *Electronic Commerce Research Journal* 183 194.

<sup>124</sup> See discussion under heading 2 (above).

electronic persons. This is largely owing to their lack of legal status and personality. For the agency theory to become a viable contender, the matter of legal status and personality must first be addressed for electronic persons.

#### 4 CONCLUSION

South Africa has done well in recognising digital transactions through the promulgation of ECTA. However technological developments have already moved on. Internationally, there are arguments for the regulation of robots and consequently AI.<sup>125</sup> There is, however, a necessary distinction to be made between passive electronic persons (which function more like a tool for human use, and align with the regulations of digital technology in terms of ECTA), and sophisticated electronic persons (which mimic human characteristics and functioning, and comprise AI technology). Wagner, speaking from a US perspective, notes that:<sup>126</sup>

“To date, no legal system classifies robots or other autonomous systems as legal subjects, instead leaving them to share the classification of other items made by humans: objects. Objects can be owned by legal subjects but cannot themselves be subjects or own objects. This means that the law attributes their actions-and omissions-not to the objects themselves but to the subjects responsible for them. The party responsible for the robot will usually be its owner, but perhaps other attributions are conceivable, particularly in cases where ownership and actual control diverge.”

Similarly, South Africa views electronic persons as passive objects and the application of the tool theory (see heading 3 4 above) is indirectly supported in ECTA. Yet, sophisticated counterparts are challenging the *status quo* and requiring legislators and legal practitioners to think differently about AI. Glimpses of this have already been seen in legal discourse and in Europe with the 2016 Report.

Electronic persons fulfil a specific function in society and have the potential of sharing inherently human characteristics. As such, the 2016 Report suggests that legislatures should, in future, consider bestowing a special type of personhood on these types of electronic systems. Such a legal status would mean that an electronic person would function as a rights-and-duties-bearing unit. However, Bilchitz notes that legal status does not necessarily mean that both rights and duties must be bestowed; it could be either rights or duties.<sup>127</sup> The extent of such rights and duties would have to be clarified in legislation.

The South African legislative framework does not contemplate the legal status of electronic persons. However, electronic persons already form an integral part of contractual engagements. For this reason, this article has considered the risk and liability in contracts, in relation to both the current form of passive electronic agents and also to sophisticated electronic persons. To this end, various theories have been put forward to discuss the

<sup>125</sup> Mgeladze and Gorgoshadze 2019 *Journal of Constitutional Law* 53.

<sup>126</sup> Wagner 2019 *Fordham Law Review* 591–612.

<sup>127</sup> Bilchitz 2009 *SAJHR* 42.

risk and liability structures. These include the traditional contractual will theory, declaration theory and reliance theory, which are only applicable to parties to a contract; thus, until legal personality is bestowed on an electronic person, such systems cannot be considered to be a party to a contract.<sup>128</sup> Turning to wider theories attributing liability and risk to electronic persons, the risk, tool and agency theories were considered.<sup>129</sup> Generally, the risk theory is applied by allocating risk by means of disclaimers, indemnities and exemption clauses and is generally applicable in contractual engagements.<sup>130</sup> The 2020 Report suggests that, for the moment, Europe advocates a form of the risk theory when attaching liability to electronic persons, their operators and creators.<sup>131</sup> On the other hand, the tool theory attributes any liability flowing from the actions of electronic persons to the owner or user of the software, as an electronic person is simply considered a tool of the owner.<sup>132</sup> The tool theory addresses liability in relation to passive electronic persons, which is supported by section 20 of ECTA, but does not contemplate the risks and liabilities that could arise in relation to sophisticated electronic persons.<sup>133</sup> Despite the conceptual calls to have the agency theory apply to electronic persons, the theory fails both at a normative and ontological level (irrespective of whether one is dealing with a passive or sophisticated electronic person).<sup>134</sup>

In conclusion, the current theoretical basis for contractual risk and liability in South Africa does not address the concept of new legal persons in the form of electronic persons; and ECTA, in its current form, would not accommodate such a development. South Africa should take cognisance of technological developments in AI and robots, as well as the developments seen in the 2016 Report (suggesting that such systems may be afforded legal personhood) and the 2020 Report (requiring a clearer liability structure for such systems). Perhaps it is time to relook at the South African legislative framework and consider to what extent ECTA or other legislative instruments may recognise and regulate sophisticated automated systems and electronic persons. A failure to do so may find South Africa left behind in the wake of technological developments and hamper future contractual engagements.

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<sup>128</sup> See heading 3 2 (above).

<sup>129</sup> See heading 3 3–3 5 (above).

<sup>130</sup> See heading 3 3 (above).

<sup>131</sup> See the 2020 Report.

<sup>132</sup> See heading 3 4 (above).

<sup>133</sup> *Ibid.*

<sup>134</sup> See heading 3 5 (above).