

# Shopping Agents and Their Legal Implications Regarding Austrian Law

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## Abstract

Shopping Agents, which search the Internet for the most favourable offer, collect information and are even capable of purchasing a product independently without human interference will play an important role in future E-Commerce. There are however a lot of legal issues related to the use of Shopping Agents such as how to legally classify Shopping Agents or if contracts concluded by Shopping Agents are binding upon its principal. Further it is questionable if the principal is liable for the conduct of the Agent. The evaluation of these legal issues will be completed by a description of the characteristics of such Agents.

## 1 What are Shopping Agents?

At present online shopping is still an arduous venture. In order to acquire a product suppliers have to be found and a comparison between those, as well as the individual products has to be executed by hand. Due to the large number of suppliers it is almost impossible to get an overview over the different offers. Thus a selection of the optimal product is hardly possible. Since these steps of searching, evaluating and purchasing a product always recur it is advisable to automate and transfer them upon an Shopping Agent. The sought article is described to the Shopping Agent, which searches the Internet for the most favourable offer, collects information and is even capable of purchasing that product independently without human interference.

### 1.1 Advantages and Disadvantages of Shopping Agents

From the buyer's point of view there are several advantages connected to the use of Shopping Agents: Shopping Agents outperform humans by providing extensive product coverage in a few seconds, far more than even a determined human shopper could achieve in hours and thus help users to cope with the increasing information overload by gathering and filtering information from different sources. The user could for example tell the Shopping Agent to search for a product by ranking it according to his preferences, which could include price, return policy, ratings from other consumers, etc.<sup>1</sup>

As further advantages one could mention:<sup>2</sup>

- As long as an Agent supports the appropriate protocol language barriers between human parties could be removed by using Shopping Agents.
- The Agent can have implement a recommendation system. The Shopping Agent could for example be told to consider the recommendations of a consumer report before a purchase.
- Today every time a user starts a query he has to start from scratch. Shopping Agents on the other hand are fully trainable and get smarter with usage. An important issue in this context is of course privacy since consumers train their Agent about preferences and needs. Hence a Shopping Agent system must assure that the users preferences and identity are not revealed unless the user consents.

From a seller's point of view however the advantages are less obvious: less established sellers may welcome Shopping Agents as an opportunity to attract buyers who might not have otherwise access to information about them, but more established sellers may feel threatened. Some large players have even been known to deliberately block automated Agents from their web sites.<sup>3</sup>

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<sup>1</sup> Personal Agents, Inc., The Future of Electronic Commerce, 1996 at <http://www.ai.univie.ac.at/%7Epaolo/1va/vu-sa/html/yc/> as available on May 21, 2002

<sup>2</sup> Personal Agents, Inc., The Future of Electronic Commerce, 1996 at <http://www.ai.univie.ac.at/%7Epaolo/1va/vu-sa/html/yc/> as available on May 21, 2002

<sup>3</sup> J.Bradford DeLong and A. Michael Froomkin. The next Economy? In Deborah Hurley, Brian Kahin and Hal Varian, editors, Internet Publishing and Beyond: The Economics of Digital Information and Intellectual Property, MIT Press, Cambridge, Massachusetts, 1998 see also Chapter 3

Apart from that many web sites earn at the moment money solely from advertisements. If these sites allow Shopping Agents to access the content of the web site, the number of human visits to the web page will presumably decrease and the advertisements will not be seen, which might lead to a loss of revenue.<sup>4</sup>

## 1.2. Characteristics of Shopping Agents

Perhaps the most general way in which the term Software Agent is used, is to denote a hardware or (more usually) software-based computer system, which is defined by the following attributes: <sup>5</sup>

- *autonomy*: Agents operate without the direct intervention of humans or others, and have some kind of control over their actions and internal state.<sup>6</sup>
- *social ability*: Agents interact with other Agents and humans in order to complete their own problem solving and to help others with their activity.<sup>7</sup>
- *responsive*: Agents perceive their environment (which may be the physical world, a user, a collection of other Agents, the Internet, or perhaps all of these combined), and respond in a timely fashion to changes that occur in it.<sup>8</sup>
- *proactivity*: Agents do not simply act in response to their environment, they are able to exhibit goal-directed behaviour by taking the initiative.

## 1.3 Where are Shopping Agents located?

a) The Agent is located in an electronic shopping mall<sup>9</sup>

This architecture delivers fast search results since the Agent does not have to search the Internet, but finds the relevant data on the same machine where the Shopping Agent is implemented. However, an extensive comparison between different malls is not guaranteed: since each mall presents its products and services in its own way the mall will not be willing to support or may even restrict the search on other malls, which considerably limits the Agents scope. Therefore a customer would have to maintain several Shopping Agents on different Malls. Further on all customer data would be stored on the mall's server, which increases the probability of misuse.<sup>10</sup>

b) The Agent is located in the consumer's computer

In this scenario, the Shopping Agent runs in the consumer's computer, which means that his personal data remains within his sphere and is only passed on to the supplier when a purchase is concluded. The Agent stands fully under the customer's control and can be optimally adapted for his needs. The drawback of this solution is that bandwidth is still limited to many end users who access the Internet via a dial up modem. For the Shopping Agent to fulfil his tasks the user has to be online constantly which means in case of a dial up web access an increase in costs. As a result the user has to be present the whole time his Agent works, which removes a major advantage of Shopping Agents, that they save the user's time by acting while the user is doing something else. Beside that users become more and more mobile and demand to access their web services - such as Shopping Agents - from any computer. This will not be possible when the Shopping Agent solely works from the consumer's PC. Apart from that security is an issue, which is unlikely to be mastered by a private user in the same way as by a provider offering and hosting a Shopping Agent.

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<sup>4</sup> David Kotz and Robert S. Gray, Mobile Agents and the Future of the Internet, Department of Computer Science/Thayer School of Engineering Dartmouth College, Hannover, New Hampshire at <http://www.ai.univie.ac.at/~paolo/lva/vu-sa/html> as available on May 21, 2002

<sup>5</sup> Hermans B.: Intelligent Software Agents on the Internet: an inventory of currently offered functionality in the information society & a prediction of (near-)future developments. Tilburg University, The Netherlands, 1996, at <http://www.ai.univie.ac.at/%7Epaolo/lva/vu-sa1999/html/agent> as available on May 21, 2002

<sup>6</sup> See: Casterfranchi, C (1995). Guarantees for autonomy in cognitive Agent architecture. In Woolridge, M. and Jennings, N. R., ed., Intelligent Agents : Theories, Architectures, and Languages (LNAI Volume 890), page 56-70. Springer-Verlag: Heidelberg, Germany.

<sup>7</sup> N.R. Jennings and W. Wooldridge, Applications of Intelligent Agents , Queen Mary & Westfield Collge, University of London, at <http://www.ai.univie.ac.at/~paolo/lva/vu-sa/html> as available on May 21, 2002

<sup>8</sup> N.R. Jennings and W. Wooldridge, Applications of Intelligent Agents , Queen Mary & Westfield Collge, University of London, at <http://www.ai.univie.ac.at/~paolo/lva/vu-sa/html> as available on May 21, 2002

<sup>9</sup> An electronic shopping mall is an online platform where supplier of different goods and services co-operate and offer their goods. The customer contracts with the single supplier and not with the service operator of the mall, who merely organises the electronic mall.

<sup>10</sup> Hans-Bernhard Beykirch, Weltweit handeln - OTP: Open Trade Protocol, iX - Magazin für professionelle Informationstechnik, S. 122f, Heft 3, 1998, at <http://www.heise.de/ix/artikel/1998/03/122> as available on May 21, 2002

c) The Agent is located in an external server run by a provider

In this architecture an external provider provides the Shopping Agent, which is installed in an external server. Since the provider is not tied to a specific electronic marketplace a comprehensive product range is open to the Shopping Agent. Due to the fact that the customer only has to be online during the communication with the Shopping Agent,<sup>11</sup> however not during its search, no performance on the customer's computer is required. Further on the service can be accessed from any computer connected to the Internet, which is a very favourable and - in case of a dial up access - cheap option for the user.<sup>12</sup>

## 2. Legal classification of Shopping Agents

Although it is difficult to state how software Agents will operate or what they will look like in the future, it is already clear that software Agents will play a more major role in E-Commerce.<sup>13</sup> This will also bring along several legal issues connected to the use of such Agents: are contracts, which are concluded by Shopping Agents binding upon the user? Who is liable for the Agents and its actions?

A number of solutions were proposed in order to overcome these legal problems.

### 2.1 Shopping Agents as mere communication tools

Shopping Agents could be seen as pure communication tools, similar to a fax machine or a telephone, simply transmitting the declaration of intent of their principal. Following this opinion there would be no doubt that the actions of the Agent can be assigned to its human principal, since it was the human being, that conveyed his will by means of the Agent. Its advantage is that it gives the user a strong incentive to ensure that the Agent is properly operating and policed,<sup>14</sup> since the user will be liable for the damage caused by the Agent.

However, the comparison of a Shopping Agent with a mere communication tool such as the telephone is misleading. Shopping Agents currently possess to a certain degree of discretion concerning their conduct (e.g. the height of the purchase price). This discretion will be even more sophisticated in the future, when Agents will perform its activities without human intervention or supervision. As Kerr states:

*"Agents will no doubt be employed to assist human interaction through the various stages of a transaction from product and merchant brokering through to negotiation, sale, distribution and payment. It is not unreasonable to predict that, in time, Agent technology will become sufficiently sophisticated to perform many if not all of these sorts of tasks without human oversight or intervention."*<sup>15</sup>

Thus it is doubtful if Shopping Agents can be considered as mere communication tools.

### 2.2 Legal personality for Shopping Agents

Legal personality as a solution to the legal problems connected to the use of Shopping Agents is often proposed.<sup>16</sup> From a legal theoretical point of view nothing speaks against the idea of providing software Agents with rights and duties: our legal system already knows legal personality for non human entities such as limited liability companies (e.g. GmbH).

A problem that would immediately arise if one were to decide to confer legal personality on an electronic Agent, is that it is difficult today to identify the Intelligent Agent: "Is it the hardware? Is it the software? What if the hardware and software are dispersed over several sites and maintained by different individuals?"<sup>17</sup> To identify an

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<sup>11</sup> The user interacts with his Agents by means of a browser via HTML-Sheets or Java-Applets

<sup>12</sup> Uwe Pomp (MMS) - Konzept und Implementierung eines Shopping-Agenten-Systems für elektronische Marktplätze at <http://www.medienassistent.org> as available on May 21, 2002

<sup>13</sup> Emily M. Weitzenböck, Electronic Agents and the formation of contracts, p. 2, at [www.eclip.org](http://www.eclip.org) as available on May 21, 2002

<sup>14</sup> Emily M. Weitzenböck, Electronic Agents and the formation of contracts, p. 10, at [www.eclip.org](http://www.eclip.org) as available on May 21, 2002

<sup>15</sup> I.R. Kerr, "Providing for Autonomous Electronic Devices in the Uniform Electronic Commerce Act", at <http://www.law.ualberta.ca/alri/ucl/current/ekerr.htm> as available on May 21, 2002

<sup>16</sup> T. Allen & R. Widdison, "Can Computers Make Contracts?", (1996) 9 Harvard Journal of Law & Technology, p.28-30; Karnow, "Liability for Distributed Artificial Intelligences" (1996) 11 Berkeley Technology Law Journal, p. 161-162

<sup>17</sup> See T. Allen & R. Widdison, T. Allen & R. Widdison, "Can Computers Make Contracts?", (1996) 9 Harvard Journal of Law & Technology, p. 25

Agent and the person standing behind it some sort of registry similar to the register of companies would thus be needed.<sup>18</sup>

In the end, the question whether apart from natural and legal persons, legal personality should also be referred upon electronic persons such as Agents has to be solved on a (legal) ethical and philosophical level.<sup>19</sup> Weizenbaum<sup>20</sup> for example demarcates some moral limits for artificial intelligence: no matter what may be possible he argues there are some applications of IT which should be able to identify as morally unacceptable. Into this category Weizenbaum puts computer applications that are “obscene” including those that

*“propose to substitute a computer system for a human function that involves interpersonal respect, understanding and love”* as well as those *“which can easily be seen to have irreversible and not entirely foreseeable side effects.”*<sup>21</sup>

### **2.3 Is the law of agency applicable to Shopping Agents?**

Since the theory of Agents as mere communication tools can not be uphold and so far no legal personality was transferred upon Shopping Agents, another option is to treat them under the law of agency. Two types of Shopping Agents would have to be distinguished:

#### **2.3.1 The Shopping Agent as an “acquisition Agent”**

This is the less sophisticated version of a Shopping Agent. The Agent simply browses the Internet to find the most favourable offer and conveys a collection of hyperlinks to the user. Subsequently the user orders the product or service via the seller’s homepage or per email. Since the Shopping Agent in this case only performs the manual search and does not purchase anything itself the legal classification is straight forward: likewise an acquisition Agent the Shopping Agent brings together potential contractual partners. Thus the Shopping Agent only prepares the business conclusion, but does not transact itself. Accordingly the user formulates and transfers the declaration of intent – even though under the help of a software Agent - so that should not be any doubt that the declaration of intent can be assigned to the user.

#### **2.3.2 The Shopping Agent as a "digital representative"**

More sophisticated systems such as the above mentioned "Kasbah" project allow the creation of a Shopping Agent in such a way that it, beside the search for the most favourable product, also actually concludes the purchase without prior approval of the user. The user gets first knowledge of “his” purchase as soon as he receives the notification of his Shopping Agent.<sup>22</sup> In this case the declaration of intent to purchase the product or service was actually generated and transmitted by a software Agent. Subsequently one has to consider if this contract is binding upon the user of the Shopping Agent.

## **3 The formation of contracts through Shopping Agents under Austrian Law**

### **3.1 Shopping Agent as a representative (Stellvertreter)**

As an essential prerequisite for the qualification as a representative § 1018 of the Austrian Civil Code (Allgemeines Bürgerliches Gesetzbuch – ABGB) notes that the representative is legally capable of contracting. This means in practice that only natural or legal persons have the legal capacity to act as a representative. Since a Shopping Agent per definition do not possess capacity,<sup>23</sup> its classification as a representative is problematic.

One could argue however, that there is “historic loophole” in the Austrian Civil Code, which has to be filled by analogue application of § 1018 ABGB to Shopping Agents, since the historic legislator of the Austrian Civil Code could not foresee the evolution of virtual market places in which Software Agents conclude contracts for their human users.<sup>24</sup>

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<sup>18</sup> Emily M. Weitzenböck, Electronic Agents and the formation of contracts, p. 9, at [www.eclip.org](http://www.eclip.org) as available on May 21, 2002

<sup>19</sup> Wolfgang Zankl, Juristische Aspekte künstlicher Intelligenz, at [www.e-zentrum.at](http://www.e-zentrum.at) as available on May 21, 2002

<sup>20</sup> Weizenbaum Joseph, Computer Power and Human Reason, Penguin, Harmondworth, 1976

<sup>21</sup> Weizenbaum Joseph, Computer Power and Human Reason, Penguin, Harmondworth, 1976, p.268-270

<sup>22</sup> Rosenthal & Partner, Verantwortung für intelligente Agenten, Insider Communications 1998

<sup>23</sup> Wolfgang Zankl, Internet und Recht, p. 99, at [www.e-zentrum.at](http://www.e-zentrum.at) as available on May 21, 2002

<sup>24</sup> Wolfgang Zankl, Internet und Recht, p. 98 at [www.e-zentrum.at](http://www.e-zentrum.at) as available on May 21, 2002

As a preliminary question the teleos of § 1018 ABGB has to be assessed: the prerequisite of § 1018 ABGB that a person has to have at least limited capacity to act as a representative is founded in the idea of protecting the represented person.<sup>25</sup> Concerning the use of Shopping Agents it was argued however, that Agents are systems, that strictly follow the logic of their rules and thus there is no need for protecting the user from his Agent, which can not act arbitrarily.<sup>26</sup> Thus the provisions of § 1018 ABGB should be applied in analogy and Shopping Agents should be seen as representatives even though they do not possess legal capacity.

As technology becomes more refined and Agents become capable of initiating transactions and operating without any human intervention, it is however possible, that the Agent exceeds its authority.<sup>27</sup> As Kerr observes:

*“part of the problem is that the operations of these devices will not always be dictated by those who program them. The electronic devices of tomorrow will ‘learn for themselves’ what is necessary in the usual course of business to complete the transaction.”*<sup>28</sup>

Thus the protection of the represented from an arbitrary conduct of his Shopping Agent might also be legitimate in the context of Shopping Agents.

To sum up it has to be stated that the Shopping Agent can neither be seen as a representative within the meaning of the Austrian Civil Code nor can the provision be applied in analogy.

### **3.2 Shopping Agent as a messenger (Bote)**

The second option, which has to be assessed is whether the Shopping Agent can be considered as a messenger of its user. The messenger does not create a declaration of intent himself but merely transmits a third person's declaration of intent. Thus the messenger does not have to have capacity at all.<sup>29</sup> To be classified as a messenger the principle of disclosure must be met: the messenger has to disclose to the third party, that he is acting on behalf of his principal. Finally the messenger has to be authorised by his principal to act on his behalf.

All these requirements seem to be met while using a Shopping Agent: it acts on behalf of the its principal and also discloses this to the contracting partner (it enters the users data while concluding the contract). Also the Shopping Agent is authorised to act on behalf of its principal, who did send it out to purchase the product or service. Consequently the Shopping Agent can be qualified as a messenger in analogy. From this follows that the actions of the Shopping Agent, which was send out by its principal are binding upon him.<sup>30</sup> Thus the user has to accept the declaration of intent expressed by his Shopping Agent just as it was his own.<sup>31</sup>

It has been argued however that the qualification of the Shopping Agent as a messenger is not possible anymore, as soon as the contracting partner realises, that the Shopping Agent and not the user himself created the declaration of intent.<sup>32</sup>

### **3.3 Excursion: the Austrian legal situation concerning Shopping Agents in the light of the E-Commerce Directive**

If the Shopping Agent can not be seen as a representative due to its lack of capacity and only deems to be a messenger as long as the contracting partner does not realise that the statement of intent was actually created by the Agent itself (and not the human user) this qualification brings along some problems regarding the E-Commerce Directive.<sup>33</sup> This would mean that contracts concluded by Shopping Agents would only be binding

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<sup>25</sup> Rudolf Welser, Vertretung ohne Vollmacht: zugleich ein Beitrag zur Lehre von der culpa in contrahendo, Manz, Wien, 1970

<sup>26</sup> Georg Schwarz, Die rechtsgeschäftliche „Vertretung“ durch SoftwareAgenten: Zurechnung und Haftung, S. 69, Auf dem Weg zur e-Person, Verlag Österreich 2001

<sup>27</sup> Emily M. Weitzenböck, Electronic Agents and the formation of contracts, p. 13, at [www.eclip.org](http://www.eclip.org) as available on May 21, 2002

<sup>28</sup> I.R. Kerr, “Providing for Autonomous Electronic Devices in the Uniform Electronic Commerce Act”, p. 59, at <http://www.law.ualberta.ca/alri/ucl/current/ekerr.htm> as available on December 14, 2001

<sup>29</sup> Reidinger Alexander: Bürgerliches Recht, part I, p.120, Vienna, WUV-Arbeitsbücher Jus, 2001

<sup>30</sup> Koziol Helmut, Welser Rudolf, Grundriß des bürgerlichen Rechts, Manz, Wien 10 Auflage 1995 S 164

<sup>31</sup> There is an exception to this rule when the messenger falsificates the declaration of intent on purpose.

<sup>32</sup> Georg Schwarz, Die rechtsgeschäftliche „Vertretung“ durch SoftwareAgenten: Zurechnung und Haftung, p. 69, Auf dem Weg zur e-Person, Verlag Österreich 2001 referring to Koziol Helmut, Welser Rudolf, Grundriß des bürgerlichen Rechts, S. 122, Manz, Vienna 10. Edition, 1995

<sup>33</sup> Directive 2000/31/EC of the European Parliament and of the Council of 8 June 2000 on certain legal aspects of information society services, in particular electronic commerce, in the Internal Market, OJ L178/1, 17.7.2000

when the Agent acts as a messenger and the fact that the declaration of intent was actually created by the Shopping Agent is not revealed by the contracting partner.

It is questionable if this legal situation in Austria is in accordance with the E-Commerce Directive, which had to be implemented into national law at January 2002 at latest.

Art 9 of the E-Commerce Directive provides that:

*“Member States shall ensure that their legal systems allows contracts to be concluded by electronic means. Member States shall in particular ensure that the legal requirements applicable to the contractual process neither create obstacles for the use of electronic contracts nor result in such contracts being deprived of legal effectiveness and validity on account of their having been made by electronic means.”*

Although the text of the E-Commerce Directive itself makes no direct reference to electronic Agents, the “Executive Summary” of the proposal text of the Directive<sup>34</sup> provided that

*“Member States will ... not prevent the use of electronic systems as intelligent electronic Agents ...”*<sup>35</sup>

Since the Austrian implementation of the E-Commerce Directive, the “E-Commerce Gesetz (ECG)”<sup>36</sup> does not deal with the use of Shopping Agents, Austria however also had to comply with Art 9 of the E-Commerce Directive, the question poses itself whether the Austrian E-Commerce Law is in accordance with the provision of Art 9 E-Commerce Directive. For reasons of the legal certainty, it would have been advisable to regulate the question of contracting by the means of Shopping Agents according to for example the “UNICTRAL Model Law of on Electronic Commerce”.<sup>37</sup>

#### **4. Liability for Shopping Agents<sup>38</sup>**

As Shopping Agents become more intelligent one can imagine malicious and deceitful Agents, trying to rip off honest ones.<sup>39</sup> It is also possible, that the Agent has a malfunction or was manipulated and consequently causes damages. Who is to bear the risk of such consequences?

To assess the question of liability for the conduct of Intelligent Agents under Austrian law, the following provisions have to be scrutinised: § 1313a Austrian Civil Code (Allgemeines Bürgerliches Gesetzbuch - ABGB), the provisions regarding absolute liability, § 27 Land Register Act (Grundbuchumstellungsgesetz – GUG),<sup>40</sup> § 453a Z 6 Austrian Procedural Code (Zivilprozessordnung – ZPO)<sup>41</sup> as well as § 37 Register of Companies Act (Firmenbuchgesetz – FBG).<sup>42</sup>

##### **4.1 Vicarious liability - § 1313a Austrian Civil Code (ABGB)**

§ 1313a ABGB regulates the liability of the contractual partner for a third person he was attending upon in order to fulfil his contractual obligation (vicarious liability). Can this provision be applied in analogy to Shopping Agents?

The teleos of § 1313a ABGB is to protect the contractual partner: The use of this concept is helpful to the plaintiff because often the negligent is financially unable to pay the judgement, while he is usually more likely to recover more in damages from the principal than his subordinate. Beside that the principal should be responsible for losses which will inevitably occur in the course of doing business and he is better positioned to control the risk than either the plaintiff or the Agent.

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<sup>34</sup> Proposal for a European Parliament and Council Directive on certain legal aspects of electronic commerce in the internal market; COM(98) 586 final; Official Journal C 30, 05/02/99

<sup>35</sup> Annex 1 to the Proposal for an Electronic Commerce Directive, COM (1998) 586 final

<sup>36</sup> Bundesgesetz, mit dem bestimmte rechtliche Aspekte des elektronischen Geschäfts- und Rechtsverkehrs geregelt (E-Commerce-Gesetz – ECG) und das Signaturgesetz sowie die Zivilprozessordnung geändert werden, BGBl I 152/2001

<sup>37</sup> UN General Assembly Resolution 51/162 of 16 December 1996, UN publication V.97-22269-May 1997-5,100, at <http://www.uncitral.org/english/texts/electcom/ml-ec.htm> as available on May 21, 2002

<sup>38</sup> see Helmut Koziol, Die Haftung der Banken bei Versagen technischer Hilfsmittel, Österreichisches Bank Archiv (ÖBA), 1987

<sup>39</sup> Chavez Anthony, Pattie Maes, Kasbah: An Agent Marketplace for Buying and Selling Goods, Proceedings of the First International Conference on the Practical Application of Intelligent Agents and Multi-Agent Technology, London, UK, April 1996 at <http://Agents.www.media.mit.edu/groups/Agents/publications> as available on May 21, 2002

<sup>40</sup> Grundbuchumstellungsgesetz, BGBl.Nr. 550/1980 zuletzt geändert durch BGBl. I Nr. 30/1997

<sup>41</sup> Zivilprozessordnung, RGBl.Nr. 113/1895 zuletzt geändert durch BGBl.Nr. 761/1996

<sup>42</sup> Firmenbuchgesetz, BGBl.Nr. 10/1991

If those thoughts are reflected upon the use of Shopping Agents some parallels become apparent: with the advent of increasingly intelligent and automated processes, and the increasingly high volume of communications, humans are increasingly using machines instead of human assistants. This could mean that the human using an Shopping Agent would not be liable for its conduct although he would be liable using an human Agent. Since the plaintiff cannot sue the Software Agent itself, he would thus become largely unprotected.

In spite this parallel it is nevertheless doubtful if § 1313a ABGB can be applied analogue: liability for Shopping Agents has to be seen as liability for an object not a human being.<sup>43</sup> Since Austrian law always distinguished between the liability for human behaviour and the liability for damages with are caused by an object, it appears to be very doubtfully whether the analogy can actually be drawn without further legal basis.<sup>44</sup> It thus has to be assessed if there exist norms in Austrian law, which constitute liability for machines or software, which are used instead of human Agents.

#### **4.2 Provisions regarding absolute liability**

The Austrian rules regarding absolute liability have considered as incomplete ever since their promulgation. Thus legal scholars always approved their application by analogy.<sup>45</sup> The analogous application of the rules concerning absolute liability is allowable however only when a danger originates from a source, that corresponds to the legally known ones. The Austrian High Court (Oberster Gerichtshof – OGH)<sup>46</sup> derives from the existing norms, that such dangers are only present, if huge elementary strengths are unleashed, heavy masses glide with immense speed, dynamite is produced or used or the airspace is endangered. Further on the high degree of likelihood of occurrence of damage or the exceptional height of the damage are significant for the assumption that the danger originates from a dangerous source.<sup>47</sup>

But it can not be said that Shopping Agents fulfil these requirements: they neither unleash elementary strengths nor is there a high degree of the likelihood of occurrence of a damage or an exceptional large damage. Beside that they do not cause any physical damage but only financial loss. Consequently a similarity with those sources the legislator deemed to be dangerous has to be negated and with it also the possibility of an analogue application of the rules regarding absolute liability.

Nevertheless the provisions regarding absolute liability show the fundamental principle that a person to whose sphere machines can be assigned to is supposed to be liable for them. Thus the one shall bear the risk that has the right and ability to control the machine and receives a (financial) benefit from its use.<sup>48</sup>

#### **4.3 § 27 Land Register Act (GUG), § 453a Z 6 Austrian Procedural Code (ZPO), § 37 Register of Companies Act (FBG)**

According to § 27 Land Register Act (GUG), the Austrian Republic is liable for any damage caused in using automated data processing in regard to the Austrian Land Register Act. An corresponding liability is set in § 37 Register of Companies Act (FBG) for automated data processing in regards to the registration of companies and in § 453a Z 6 Austrian Procedural Code (ZPO) concerning automated data processing regarding the electronic file of a lawsuit.

The underlying assumption of those provisions is not that the public authorities in using automated data processing avail themselves of dangerous means in the sense of absolute liability. Rather, this liability deprives from the assumption that in the end actually most failures which appear in the context of automated data processing are results of human mistakes, such as programming or handling errors.<sup>49</sup> Further, the actual course, which leads to a mistake, is hard to identify and to prove for the plaintiff.

These provisions thus turn out to be a legal novelty: they create liability similar to the provisions of absolute liability even though automated data processing does not create any special dangerousness in itself. The

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<sup>43</sup> Köhler: Problematik automatisierter Rechtsvorgänge, AcP 182, 1982, p. 168

<sup>44</sup> Helmut Koziol, Die Haftung der Banken bei Versagen technischer Hilfsmittel, Österreichisches Bank Archiv (ÖBA), 1987, p.7

<sup>45</sup> Ehrenzweig: System II/1, p. 652; Holeschofsky: Richterliche Rechtsfortbildung, p. 1; Koziol: Haftpflichtrecht II, p. 575 ff; ders: Gefährdungshaftung, p. 173; Posch: Reform der Gefährdungshaftung, p. 165; Reichauer in Rummel, ABGB II § 1306 Rz 2

<sup>46</sup> see SZ 44/182 = JBl 1972, 539; SZ 46/36

<sup>47</sup> Helmut Koziol, Haftpflichtrecht I, p. 136

<sup>48</sup> Helmut Koziol, Haftpflichtrecht I, p. 135

<sup>49</sup> see comments to the Grundbuchsumstellungsgesetz, BLG NR XV.GP, p. 20

argument for this liability is the same as mentioned in the context of vicarious liability: one should not be able to minimise his liability, in using technical aids, such as machines or software instead of human Agents.

#### **4.4 Conclusion**

The liability for the use of Intelligent Agents appears to be justifiable in analogy to § 1313a ABGB in connection with § 27 GUG and § 453a ZPO as well as § 37 FBG.

### **5. Further legal questions concerning the use of Shopping Agents**

Apart from the issues addressed above, concerning the questions if contracts which are concluded by Shopping Agents are binding upon the user and who is liable for the Agent's conduct, a number of further legal issues arise which will be assessed in the following chapter.

#### **5.1 Duration of an offer generated by Shopping Agents**

§ 862 Austrian Civil Code (ABGB) rules in order for consent to exist, the offer, given to a particular person when both contracting partners are present (e.g. via telephone or by any other means that permits each contracting party to know immediately the intention of the other party) must be accepted immediately. If the contracting partners are not present and thus immediate communication is not possible, then consent may be manifested by any other competent means. Such an offer will cease to operate either if the deadline agreed upon expires or if sufficient time has elapsed. A time period will be deemed sufficient if, under normal circumstances, it would allow for an answer to come to the knowledge of the offering party.

For the duration of an offer it is therefore essential, whether an offer done by an Shopping Agent is to be qualified as an offer, where both contracting partners are present. If the Shopping Agent is qualified as a messenger the contract can be classified as between partners not present. This means that the contracting party is not able to accept it right away.<sup>50</sup> In general it can be assumed that electronic communication - thus also the communication via Shopping Agents - can be deemed to take place between contracting parties who are absent.<sup>51</sup>

On the other hand, EDI<sup>52</sup> transactions were judged as communication between contracting partners both present.<sup>53</sup> Although EDI transactions as well as transactions via Shopping Agents contain an automated declaration of intent there are major differences: in case of Electronic Data Interchange the partners agree upon this system beforehand. Beside that normally Business-to-Business transactions are governed by EDI. With Shopping Agents however used in a Business to Consumer environment the contracting partners normally do not agree upon this standardised form of co-operation. Thus transactions via Shopping Agents can be qualified to take place between absentees.

#### **5.2 General terms and conditions**

The basic requirement for incorporating general terms and conditions into contracts (over the Internet) is that the general terms and conditions must be made known to the user before he enters into an agreement. The consumer must be given opportunity to read and agree (expressly or tacitly) to the terms and conditions. These prerequisites are however debatable while concluding a contract via Shopping Agents since the consumer is never given the opportunity to read or consent to the terms and conditions. Only the Shopping Agent interacts with the supplier (or his Selling Agent) and it is thus doubtful, whether the general terms and conditions become incorporated in the contract at all. The consumer would have to program its Agent in such a way, that it can check all conditions of the contract if they match the user's intent.

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<sup>50</sup> Reidinger Alexander: Bürgerliches Recht, part I, p.121, Vienna, WUV-Arbeitsbücher Jus, 2001

<sup>51</sup> Hoeren/Sieber/Mehring, Handbuch des Multimedia-Recht, München 1999, RZ 69ff - in principle it is however possible that electronic communication can also be qualified to take place between contracting partners who are present: e.g. in a real time chat.

<sup>52</sup> Electronic Data Interchange (EDI) works by providing a collection of standard message formats and element dictionary in a simple way for businesses to exchange data via any electronic messaging service. These transactions include such documents as purchase orders, invoices, inquiries, planning, acknowledgements, pricing, order status, scheduling, test results, shipping and receiving, payments, and financial reporting.

<sup>53</sup> Brenn in ÖJZ 1997, 652



A future solution to that problem could be the use of Extensible Markup Language (XML):<sup>54</sup> currently information is delivered in format-oriented, handcrafted hypertext mark up language (HTML), making it understandable only through human eyes. Software Agents though have difficulties using the information because it is not semantically encoded.<sup>55</sup> Tomorrow's web will use XML to encode information and services with meaningful structure and semantics that computers can readily understand.

An example for this is the metadata schema<sup>56</sup> that was designed to communicate natural language semantics of a Web site's privacy practice (e.g., purpose of data collection, whom it is redistributed to, etc.). This is one of the key components of the W3C's Platform for Privacy Preferences (P3P).<sup>57</sup> The intent of the P3P Harmonized Vocabulary is to express data collection practices in a proposal such that it can be acted or mediated on by the user's computer Agent. The Agent does not truly understand the natural language semantics of "the purpose is for marketing activities," but it can understand that the user told it to reject proposals with purpose=4. The goal of P3P is to enable users to operate within a sphere of policy of her choosing without necessarily having to investigate the -- sometimes confusing -- natural language privacy practices of every site she visits.<sup>58</sup> Consequently one could also imagine such a strategy for general terms and conditions similar to the one used for privacy practice. As a result the Shopping Agent could understand the meaning of the general terms and conditions, including say, whether a number represents a provision concerning warranty.<sup>59</sup> The Shopping Agent could then either consent to them or in case he does not understand (because the supplier incorporated a term not covered by the standard) disapprove them and report to its user. As far as the author is aware of, no steps were taken to create a harmonised vocabulary similar to the P3P concerning general terms and conditions. Hence the legal situation has to be assessed from today's point of view.

An alternative would be that the user attaches a list of contractual conditions he would accept to the Shopping Agent.<sup>60</sup> Since the consumer might lack the essential legal knowledge to formulate or update such a list, this list will seldom match the seller's terms and conditions, so this would not be a practical way either. Consequently, the consumer would have to give a beforehand consent to his Agent to accept all general terms and conditions. An argument in favour of this theory would be that consumer protection legislation commonly found in EU Member States<sup>61</sup> often imposes limits to terms and conditions that may be excluded or varied anyway and these cannot be overridden by agreement. Any terms with attempt to override the legislation are automatically void. Nevertheless it is not advisable from a consumer's point of view to follow that strategy since it is possible that he consents to conditions which are lawful but nevertheless unfavourable.<sup>62</sup>

A further argument for the validity of general terms and conditions also in using Shopping Agents is that the seller fulfils all requirements for the validity of the general terms and conditions: would the consumer himself and not the Shopping Agent purchase the product or service the general terms and conditions would have been incorporated in the contract. Thus it is to question if an intervening Shopping Agent, who is acting on behalf of the user should constitute a disadvantage for the seller? Apart from that the seller hardly ever realises if it was the Shopping Agent or the consumer himself whom he contracted with.<sup>63</sup>

Considering the strict case law of the Austrian High Court (Oberster Gerichtshof – OGH) regarding the validity of general terms and conditions in consumer affairs, it is however likely to assume that the contract is valid

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<sup>54</sup> XML (Extensible Markup Language) is a specification of the World Wide Web Consortium, the standards organization for the Web. XML is a method by which users specify a syntax for structuring Web documents, sometimes known as markup. Taken from Reagle Joseph, Eskimo Snow and Scottish Rain: Considerations of Schema Design online at [http://www.w3.org/TR/md-policy-design#\\_XML\\_and\\_Syntax](http://www.w3.org/TR/md-policy-design#_XML_and_Syntax) as available on June 05, 2002.

<sup>55</sup> Glushko Robert J., Tenenbaum Jay M., Meltzer Bart, An XML Framework for Agent based Ecommerce online at <http://www.soc.staffs.ac.uk/~cmryl/refpapers/p106-glushko.pdf> as available on June 05, 2002.

<sup>56</sup> The enumeration, structure and definition of the terms use to make metadata assertions, Reagle Joseph, Eskimo Snow and Scottish Rain: Considerations of Schema Design online at [http://www.w3.org/TR/md-policy-design#\\_XML\\_and\\_Syntax](http://www.w3.org/TR/md-policy-design#_XML_and_Syntax) as available on June 05, 2002.

<sup>57</sup> Online at [www.w3c.org/P3P](http://www.w3c.org/P3P) as available on June 05, 2002.

<sup>58</sup> Reagle Joseph, Eskimo Snow and Scottish Rain: Considerations of Schema Design online at [http://www.w3.org/TR/md-policy-design#\\_XML\\_and\\_Syntax](http://www.w3.org/TR/md-policy-design#_XML_and_Syntax) as available on June 05, 2002.

<sup>59</sup> Glushko Robert J., Tenenbaum Jay M., Meltzer Bart, An XML Framework for Agent based Ecommerce online at <http://www.soc.staffs.ac.uk/~cmryl/refpapers/p106-glushko.pdf> as available on June 05, 2002.

<sup>60</sup> Uwe Pomp (MMS), Konzept und Implementierung eines Shopping-Agenten-Systems für elektronische Marktplätze at [www.medienassistent.org](http://www.medienassistent.org) as available on May 21, 2002

<sup>61</sup> e.g. the Unfair Terms Directive 93/13/EEC OJ L 95 April 21, 1993 implemented in Austria through an amendment to the Consumer Protection Act (Konsumentenschutzgesetz – KSchG) I 6/1997 from 01.01.1997

<sup>62</sup> e.g. the charge in case the consumer makes use of his right of withdrawal according to Art 6 of the distance selling directive. The Austrian implementation requests in § 5 Abs. 2 Consumer Protection Act (KSchG) that this charge has to be agreed upon on the forehand.

<sup>63</sup> This is especially the case in the client version of a Shopping Agent.

without the incorporation of the general terms and conditions.<sup>64</sup> The Austrian High Court positions a strict standard concerning the question, whether general terms and conditions are agreed upon conclusively.<sup>65</sup> In the consumer field one cannot presuppose that sellers will only contract under their general terms and conditions.<sup>66</sup> Thus the consumer must be told, that the general terms and conditions apply and he should have the chance to take knowledge of them. But he is not obliged to “search” for them.<sup>67</sup>

If that case law is applied to the use of Shopping Agents it becomes evident, that the consumer on one hand does not have the opportunity to read and agree to the terms and conditions and on the other hand is not obliged to request them. Consequently from today’s point of view it is unlikely that the general terms and conditions become incorporated in the contract under Austrian law.

### 5.3 Applicable law

Art. 5 (2) of the Convention on the Law Applicable to Contractual Obligations (Rome Convention) states that

*“a choice of law made by the parties shall not have the result of depriving the consumer of the protection afforded to him by the mandatory rules of the law of the country in which he has his habitual residence if in that country the conclusion of the contract was preceded by a specific invitation addressed to him or by advertising, and he had taken in that country all the steps necessary on his part for the conclusion of the contract.”*

First it has to be questioned what is meant by the condition “steps necessary for the conclusion of the contract” in his state of domicile in order to fall within the merit of Art 5 (2). The Giuliano/Lagarde Report<sup>68</sup> defines the notion “steps” as:

*“inter alia writing or any action taken in consequence of an offer or advertisement”*

From this, it would seem that the term “steps” should be construed as denoting factual and not merely legal measures.<sup>69</sup> In an E-Commerce context, therefore the criteria of the consumer taking the necessary steps will be fulfilled if the consumer follows such actions as typing on a computer keyboard or clicking with a “mouse”.<sup>70</sup> But from that it also follows that the requirement of Art 5 (2) is not met if the consumer undertakes such steps from another country.

If the consumer does not purchase the product or service directly but through his Shopping Agent it is debatable whether Art 5 (2) is still applicable. After all, the consumer increases his reach by his own drive. He becomes more actively and does not correspond completely to the model picture of the passive consumer.<sup>71</sup> On the other hand, the consumer himself didn’t move from his state of domicile. If he had performed the order on the Internet himself, Art 5 (2) would protect him (if the other criteria laid down in Art 5 Rome Convention were fulfilled as well). This means that the contract concluded by a Shopping Agent on behalf of a consumer is still a consumer contract and thus falls under the consumer protection regime. Thus the use of a Shopping Agent should not decrease the protection granted by consumer protection laws, which leads to the conclusion that the protection of Art 5 (2) also grasps in case of the use of Shopping Agents.

The situation has to be seen differently however if the Agent acts from another state than the consumers state of domicile (e.g. if the Shopping Agent is installed on a server located in a third country). If the Shopping Agent acts on behalf of the consumer from another state it is likely to assume, that the protection of Art 5 (2) Rome Convention can not be applied any more since the consumer does not take all the steps necessary on his part for the conclusion of the contract in his country.<sup>72</sup> After all it is the Shopping Agent, which concludes the contract from the third state.

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<sup>64</sup> See ZVR 1991, 104; further weiters *Rummel* in Rummel, ABGB<sup>2</sup>, Rz 3 zu § 864 a ABGB

<sup>65</sup> OGH in 1 Ob 533/94

<sup>66</sup> OGH in 1 Ob 533/94

<sup>67</sup> Kramer in Straube, HGB, Rz 13 vor § 343; Rummel in Rummel, ABGB<sup>2</sup>, Rz 2 zu § 864a

<sup>68</sup> Giuliano, M. & Lagarde, P., Report on the [Rome] Convention on the law applicable to contractual obligations (Official Journal 1980 C 282, p. 1 – hereinafter termed the Giuliano/Lagarde Report).

<sup>69</sup> Schu, Reinhard, The Applicable Law to Consumer Contracts made over the Internet: Consumer Protection through Private International Law?, International Journal of Law and Information Technology 1997, p. 215; Morse, C. G. J., Consumer Contracts, Employment Contracts and The Rome Convention, International and Comparative Law Quarterly 1992, p. 1, 7.

<sup>70</sup> Morten Foss and Lee A. Bygrave, International Consumer Purchases through the Internet: Jurisdictional Issues pursuant to European Law, Norwegian Research Centre for Computers and Law at [www.eclip.org](http://www.eclip.org) as available on December 27, 2001

<sup>71</sup> Mankowski, Internet und besondere Aspekte des Internationalen Vertragsrecht, CR 8/ 1999

<sup>72</sup> Mankowski, Internet und besondere Aspekte des Internationalen Vertragsrecht, CR 8/ 1999

Thus from a consumer protection point of view it is advisable to implement the client version, where the Shopping Agent acts locally from the consumer's PC or to use the Shopping Agent just as an acquisition Agent and to actually purchase yourself. It is however evident that these solutions would decrease the Shopping Agents advantages considerably.

In this context, it is interesting to note, that the Regulation on Jurisdiction and Enforcement of Judgments in Civil and Commercial Matters<sup>73</sup> which came to force in March 2002 replacing and updating the Brussels Convention<sup>74</sup> does not mention the requirement laid down in Art 13 (1) (3) b of the Brussels Convention (which is identical to that laid down in Art. 5 (2) Rome Convention), namely that the consumer "took in that state the steps necessary for the conclusion of the contract" any more.

## 6. Conclusions

Today's first-generation Agent-mediated E-Commerce systems are already creating new markets in helping buyers and sellers combat information overload and expedite specific stages of the online buying process. However, there is still a way to go before software Agents transform the way online business is conducted. This change will occur as Agent technologies mature to better manage ambiguous content, personalized preferences, complex goals, changing environments, and disconnected parties and secure payment mechanisms are developed.<sup>75</sup>

From a legal point of view it is necessary to strengthen business's as well as consumer's faith in such Agent systems. Thus it is vital to embed the problems arising out of the use of Shopping Agents in a clear legal framework: the elimination of uncertainties concerning the question if contracts, which are concluded by Shopping Agents are binding upon the user and who is liable for the Agent's conduct as well as a number of equally important issues such as the validity of general terms and conditions is therefore vital. Such trust enhancing measures will determinate the future use of Shopping Agents.

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<sup>73</sup> Council Regulation (EC) No 44/2001 of 22 December 2000 on jurisdiction and the recognition and enforcement of judgments in civil and commercial matters

<sup>74</sup> Convention on Jurisdiction and the Enforcement of Judgements in Civil and Commercial Matters (Brussels Convention of 1968)

<sup>75</sup> Maes Pattie, H.Guttman Robert, G.Moukas Alexandros, Agents that Buy and Sell: Transforming Commerce as we Know It., MIT Media Laboratory, submitted to the communications of the ACM, March 1999, Issue at [www.e-global.es/006\\_maes\\_ia.pdf](http://www.e-global.es/006_maes_ia.pdf) as available on June 03, 2002.

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