

## APPENDIX

**Table A1.** Publications analyzed in this work in alphabetic order. The presence of the description of the N recommendation system, what type of algorithm has been tested and what type of advanced solutions, are also reported.

Citation	N recommendation system	Algorithm	Advanced solutions
Adamchuk et al., 2017	x	Empirical model	
Adamchuk, 2009	x	Empirical model	
Argento et al., 2020	x	Empirical model	
Arnall et al., 2016	x	Empirical model	
Asebedo, 2015	x	Empirical model	
Banayo et al., 2018	x	Empirical model	
Barker and Sawyer, 2012	x	Empirical model	
Bastos, 2019	x	Empirical model	
Bean et al., 2018a	x	Empirical model	Algorithm add-ons
Bean et al., 2018b	x	Empirical model	
Bernsten et al., 2006		Empirical model	Sensor/approach fusion
Bhanumathi et al., 2019	x	Machine learning	
Bourdin et al., 2017	x	Mechanistic model	Multi-objectives decision
Bowen et al., 2005	x	Empirical model	
Bragagnolo et al., 2016	x	Empirical model	
Buresh et al., 2019	x	Empirical model	Algorithm add-ons
Burns, 2014	x	Empirical model	Algorithm add-ons
Bushong et al., 2016a	x	Empirical model	
Bushong et al., 2016b	x	Empirical model	Algorithm add-ons
Cao et al., 2012	x	Empirical model	
Cao et al., 2017	x	Empirical model	
Chim et al., 2017	x	Empirical model	
Chuan et al., 2013	x	Empirical model	
Chuan et al., 2019	x	Empirical model	
Clark et al., 2020		Empirical model	Algorithm add-ons
Colaco and Bramley, 2019		Empirical model	Algorithm add-ons
Cordero et al., 2018	x	Empirical model	
Crowther, 2018	x	Empirical model	Sensor/approach fusion
Cui et al., 2017	x	Empirical model	
Debeljak et al., 2019		Mechanistic model	Algorithm add-ons
Dehkordi et al., 2020		Empirical model	Sensor/approach fusion
Dellinger et al., 2008	x	Empirical model	
Edalat et al., 2019		Empirical model	Sensor/approach fusion
Forrestal et al., 2012		Empirical model	Algorithm add-ons
Foster et al., 2017	x	Empirical model	
Franzen et al., 2014	x	Empirical model	
Gramig et al., 2017	x	Empirical model	Multi-objectives decision
Granados et al., 2013	x	Mechanistic model	Multi-objectives decision
Guérif et al., 2007	x	Mechanistic model	Sensor/approach fusion
Han et al., 2019		Mechanistic model	Multi-objectives decision
Hawkins et al., 2007	x	Empirical model	
He et al., 2006	x	Empirical model	
Holland and Schepers, 2010	x	Empirical model	Sensor/approach fusion
Holmes et Jiang, 2018		Mechanistic model	Environmental benefits
Holzpfel et al., 2009	x	Empirical model	
Jin et al., 2017	x	Mechanistic model	Sensor/approach fusion
Jin et al., 2019	x	Mechanistic model	Sensor/approach fusion
Jones, 2013	x	Empirical model	
Kabir et al., 2019	x	Empirical model	
Kapp-Junior et al., 2020	x	Empirical model	Environmental benefits

Karki , 2013	x	Empirical model	
Karyotis et al., 2018	x	Empirical model	Algorithm add-ons
Khalilian et al., 2017	x	Empirical model	Sensor/approach fusion
Khoshnevisan et al., 2020	x	Machine learning	Multi-objectives decision
Kim et al., 2006	x	Empirical model	Sensor/approach fusion
Kitchen et al., 2010	x	Empirical model	
Krienke , 2011	x	Empirical model	Environmental benefits
Laboski et al., 2014	x	Mechanistic model	
Lawes et al., 2019		Machine learning	Sensor/approach fusion
Lekakis et al., 2020	x	Empirical model	Sensor/approach fusion
Levitin and Gross, 2018		Machine learning	Sensor/approach fusion
Lindblom et al., 2017	x	Empirical model	Environmental benefits
Linna et al., 2019		Machine learning	Sensor/approach fusion
Liu et al., 2017	x	Empirical model	
Loo, 2018		Empirical model	Algorithm add-ons
Lu et al., 2020	x	Empirical model	
Lukina et al., 2001	x	Empirical model	
Mack, 2006	x	Empirical model	
Makowski and Wallach, 2001	x	Empirical model	Algorithm add-ons
Makowski et al., 2001	x	Empirical model	Algorithm add-ons
Marinello et al., 2017		Empirical model	Environmental benefits
McFadden et al., 2018		Empirical model	Multi-objectives decision
McNunn et al.. , 2019	x	Mechanistic model	Sensor/approach fusion
Melkonian et al., 2007	x	Mechanistic model	Sensor/approach fusion
Melkonian et al., 2008	x	Mechanistic model	Sensor/approach fusion
Mesbah et al., 2017	x	Mechanistic model	Environmental benefits
Mesbah et al., 2018	x	Mechanistic model	Environmental benefits
Miller et al., 2017	x	Empirical model	Algorithm add-ons
Moeller et al., 2009	x	Mechanistic model	Multi-objectives decision
Montealegre et al., 2019	x	Empirical model	
Montealegre et al., 2019	x	Empirical model	
Morari et al., 2020	x	Mechanistic model	Sensor/approach fusion
Nasielski et al., 2020	x	Mechanistic model	
Niemeyer, 2020	x	Empirical model	Algorithm add-ons
Nigon et al., 2019	x	Empirical model	
Oliveira et al., 2013	x	Empirical model	
Osmond et al., 2018	x	Mechanistic model	
Oyinbo, 2019	x	Empirical model	
Pahlmann et al., 2017	x	Empirical model	
Paiao et al., 2020	x	Empirical model	
Pampolino et al., 2012	x	Empirical model	
Porter, 2010	x	Empirical model	Sensor/approach fusion
Preza Fontes et al., 2019		Empirical model	Environmental benefits
Puntel et al., 2018	x	Mechanistic model	
Puntel et al., 2019		Empirical model	Multi-objectives decision
Purba et al., 2015	x	Empirical model	
Qin et al., 2018	x	Empirical model	
Quebrajo et al., 2015	x	Empirical model	
Ransom et al., 2019	x	Machine learning	Sensor/approach fusion
Ransom et al., 2020	x	Empirical model	
Ransom, 2018	x	Machine learning	Algorithm add-ons
Raun et al., 2009	x	Empirical model	
Ravier et al., 2018	x	Mechanistic model	
Rhezali et al., 2018	x	Empirical model	
Roberts et al., 2011	x	Empirical model	Multi-objectives decision
Roberts et al., 2012	x	Empirical model	
Roberts, 2009	x	Empirical model	Sensor/approach fusion
Rogers et al., 2017	x	Empirical model	
Ruiz Diaz et al., 2008	x	Empirical model	

Rutan and Steinke, 2017	x	Mechanistic model	
Sala et al., 2015	x	Empirical model	
Samborski et al., 2016	x	Empirical model	
Samborski et al., 2017	x	Empirical model	
Sawyer, 2013	x	Mechanistic model	
Scharf et al., 2005	x	Empirical model	
Scharf et al., 2011	x	Empirical model	
Schmidt et al., 2011	x	Empirical model	
Schmidt et al., 2011	x	Empirical model	
Schwalbert et al., 2019	x	Empirical model	
Sela et al., 2016	x	Mechanistic model	
Sela et al., 2017	x	Mechanistic model	
Sela et al., 2018	x	Mechanistic model	
Sela et al., 2019	x	Mechanistic model	Algorithm add-ons
Shahhosseini et al., 2019		Machine learning	Sensor/approach fusion
Shiratsuchi, 2011	x	Empirical model	Sensor/approach fusion
Solari et al., 2010	x	Empirical model	
Solie et al., 2012	x	Empirical model	
Stamatiadis et al., 2018	x	Empirical model	
Tagarakis and Ketterings, 2018	x	Empirical model	
Tauer, 2000	x	Empirical model	
Teal et al., 2006	x	Empirical model	
Thind et al., 2017	x	Empirical model	
Thomason et al., 2011	x	Empirical model	
Thompson and Puntel, 2020	x	Empirical model	
Thompson et al., 2015	x	Mechanistic model	
Tremblay et al., 2010	x	Machine learning	
Trevisan et al., 2019		Empirical model	Sensor/approach fusion
Tubaña et al., 2008	x	Empirical model	
van Es et al., 2020	x	Mechanistic model	
Vian et al., 2018	x	Empirical model	
Villalobos et al., 2020	x	Empirical model	Algorithm add-ons
Vizzari et al., 2019	x	Empirical model	
Walsh et al., 2018	x	Empirical model	
Wang et al., 2019	x	Empirical model	Sensor/approach fusion
Wang, 2017		Empirical model	Algorithm add-ons
Wiatrak et al., 2008	x	Empirical model	Sensor/approach fusion
Williams, 2018	x	Empirical model	Sensor/approach fusion
Xu et al., 2014	x	Empirical model	
Xu et al., 2016	x	Empirical model	
Xu et al., 2017	x	Empirical model	Algorithm add-ons
Xue et al., 2014	x	Empirical model	
Yang et al., 2017	x	Empirical model	
Yuan et al., 2017	x	Mechanistic model	
Zhang et al., 2015	x	Mechanistic model	
Zhang et al., 2017	x	Empirical model	
Zhang et al., 2018	x	Empirical model	
Zhao et al., 2017	x	Mechanistic model	Environmental benefits
Zillmann et al., 2006	x	Empirical model	