Overcoming Barriers to Collaboration in an Open Source Ecosystem

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Table 2. Open source ecosystem actors, sub-groups, and collaboration barriers

Category	Collaboration Barriers*	Specific Actors
Governance	Lack or type of governance (Muegge, 2011; O'Mahony & Bechky, 2008)	Foundation, community
	Lack of transparency (Smith & Milinkovich, 2007; Skerrett, 2009)	Foundation
	Intellectual property concerns (Muegge, 2011; Skerrett, 2009)	Foundation
	Moving from closed to open (Smith & Milinkovich, 2007)	Foundation
	Disparate interests; divergent interests (O'Mahony & Bechky, 2008)	Foundation, community
	Lack of project representation (O'Mahony & Bechky, 2008)	Foundation, community
	Pluralistic control (O'Mahony & Bechky, 2008)	Foundation, community
	Differences preventing collaboration (O'Mahony & Bechky, 2008)	Foundation, community
	Challenges in defining the scope of collaboration (Skerrett, 2009)	Foundation
	Reluctance to be openness (Skerrett, 2009; Muegge, 2013)	Foundation
	Economic imbalance (Kshetri & Schiopu, 2007)	Foundation, government
Complementors	Lack of transparency (Muegge, 2013)	
	Initial lack of trust (Skerrett, 2011)	
	Inequality (Skerrett, 2011)	
	Moving from closed to open and developing in the open (Skerrett, 2011)	
	Selecting the best open license strategy for wider collaboration that does not introduce a high business risk (Skerrett, 2011)	
Competitors	Reluctance to reveal confidential information (Lindman & Rajala, 2012)	
	Lack of clear goals and objectives of collaboration (Lindman & Rajala, 2012)	
	Restrictive licensing model (Schreuders et al., 2011)	
	Initial lack of trust (Evans & Wolf, 2005; Shamsuzzoha et al., 2013)	
	Inability to cooperate (Shamsuzzoha et al., 2013)	
	Lack of clearly aligned and shared objectives (Shamsuzzoha et al., 2013)	
	Lack of clear, well-defined formalized roles (Shamsuzzoha et al., 2013)	
	Unwillingness to share knowledge and competencies (Shamsuzzoha et al., 2013)	
	Lack of shared values (Shamsuzzoha et al., 2013)	
	Mix of amateurs and professionals (Evans & Wolf, 2005)	
	Mix of skills and levels of skills (Evans & Wolf, 2005)	
	Members with no defined role or responsibilities (Evans & Wolf, 2005)	
Core Community	Difficulties in relationship building (Nan & Kumar, 2013)	Developer
	Lack of a formal team structure (Nan & Kumar, 2013)	Developer
	Degree of centralization (Nan & Kumar, 2013; Colazo, 2010)	Developer
	Dealing with volunteer members (Colazo, 2010)	Developer
	Lack of transparency (Muegge, 2013)	Developer, user, adopter
	Intellectual property concerns (Muegge, 2011)	User, adopter
	Initial lack of trust (Skerrett, 2011; Evans & Wolf, 2005)	User, adopter, leader
	Inequality (Skerrett, 2011)	User, adopter
	Moving from closed to open and developing in the open (Skerrett, 2011)	User, adopter
	Selecting the best open licensing strategy for wider collaboration that does not introduce a high business risk (Skerrett, 2011)	User, adopter
	Negative selfish interest of users (Muegge, 2013)	User
	Dispersed work (Hemetsberger & Reinhardt, 2009)	Expert user
	Mix of different skills expertise (professional and amateur) (Hemetsberger & Reinhardt, 2009; Evans & Wolf, 2005)	Expert user, leader
	Challenges in integrating new members (Hemetsberger & Reinhardt, 2009)	Expert user
	Members without defined roles or responsibilities (Evans & Wolf, 2005)	Leader
	Leadership in a virtual environment (Sarker et al., 2009)	Leader
	Perception of leadership (Sarker et al., 2009)	Leader

*See Table 1 for links to cited articles.