

## Dissertation project – template 17.4.2019

*According to the dean's directive No. 4/2020 „Studies in doctoral degree programmes“ the student shall process its dissertation project in the extent of 20-30 pages corresponding to a scientific publication both in depth and structure. The project can be provided in the English language. The project shall include:*

- a) clear definition of the aim and the relevance thereof*
- b) detailed review relevant to the given field of research based on the international environment*
- c) detailed research methodology (design of their own project)*

*Format:*

- *Font: Arial*
- *Spacing: 1,3*
- *Before the paragraph: 3 p.*
- *After the paragraph: 0 p.*
- *Bullet points: dash (-)*

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### **Soft measures and their relevance in the transition to circular economy - the case study of the Czech Republic**

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#### **1. Introduction**

Undoubtedly a significant driver of the contemporary environmental policy is the circular economy paradigm. Circular economy rather than economy based on linear material flows aims at reducing the need for raw materials and waste disposal (Bilitewski, 2012; Elia et al., 2017), or maintain the added value in products for as long as possible and thus minimise waste production (Di Maio et al., 2017). Therefore, the circular economy paradigm is a combination of ecological, economic, technological, and social issues. As such, circular economy gained increased attention among scholars, policymakers, and industry representatives in the last decades (Geissdoerfer et al., 2017) across different fields of research.

The implementation of the circular economy paradigm into practice raises the question what are



priority fields of intervention. According to the current state of knowledge, circular economy is supposed to be a new business model with a focus on new approaches to product design and production (Mathews and Tan, 2011; Bocken et al., 2016; Ramani, 2010; Tukker, 2015). Haas et al. (2015) stresses the necessity of innovative high-quality recycling technologies. Furthermore, effective cooperation between key actors on the supply chain is crucial to get benefits of a circular economy (Desrochers, 2004; Chertow, 2007; Lehtoranta et al., 2011; Martin et al., 2015).

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## 2. Current state of knowledge

After recent decades of intensive public relations aimed at increasing convenience and removing obstacles perceived by using separation systems, the recycling efforts are becoming more as a normal behaviour and as a social norm. Nyborg et al. (2016; 42) defined social norms as “a predominant behavioural pattern within a group, supported by a shared understanding of acceptable actions and sustained through social interactions within that group”. However, Hage et al. (2009) argues that it is difficult to distinguish between social and moral norms as these social interactions activate moral norms. Defining social norms, the pressure of the community and potential sanctions are significant aspects in shaping behavioural patterns.

Hage et al. (2009) considers social norms as norms enforced by sanctions from others. According to Halvorsen (2010), when the social norm is strong, sanctions (and feelings of guilt) are a significant predictor of pro-environmental behaviour. However, Abbott et al. (2013; 11) stated that sanctions are not required, when: “social norms become internalised so that they do not require an external sanction mechanism or ... the degree of conformity amongst the population and the level of expectation are sufficiently high for compliance without the need for the threat of external sanctions”. Furthermore, Benabou and Tirole (2006) found rewards and punishments aimed at supporting desirable behaviour to have perverse effects when intrinsic motivations are crowded-out by extrinsic incentives. Thøgersen (2008) argues that when individuals find the social norm as legitimate, not because of threats of sanctions, then they are not tempting to evade.

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### 2.1 Title

The willingness to recycle is influenced also by the knowledge of the separate collection and recycling system. Campaigns can provide arguments supporting waste separation and initiate a two-step flow of communication for encouraging people to discuss recycling among themselves. This is essential because opinion-leaders of chronic non-recyclers, people who are closest to the respondent, are usually opponents of waste separation, not supporters (e.g. Abbott et al., 2013; Miliute-Plepiene et al., 2016). Campaigns can play an important role in bringing the issue of recycling and its positive impact on the environment to the attention of opinion-leaders who can consequently influence the attitudes and behaviour of other people in their social surroundings. However, Halvorsen (2010) concluded that the effectiveness of information campaigns has found its limits as this measure has been used for a long time in most countries and already reached most of society. To motivate those who are not yet motivated to recycle will be very hard. On the other hand, to prevent recycling decay (decrease of public participation on recycling efforts) Woodard et al. (2005)

supported permanent promotional and educational (P&E) activities.

The more information people have regarding recycling issues (e.g., placement of collection points, information about which materials can be sorted or how often containers are emptied), the more likely they are to recycle (Hornik et al., 1995; Garces et al., 2002; McDonald and Oates, 2003; Barr, 2007).

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## 2.2 Title

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### 2.2.1 Title

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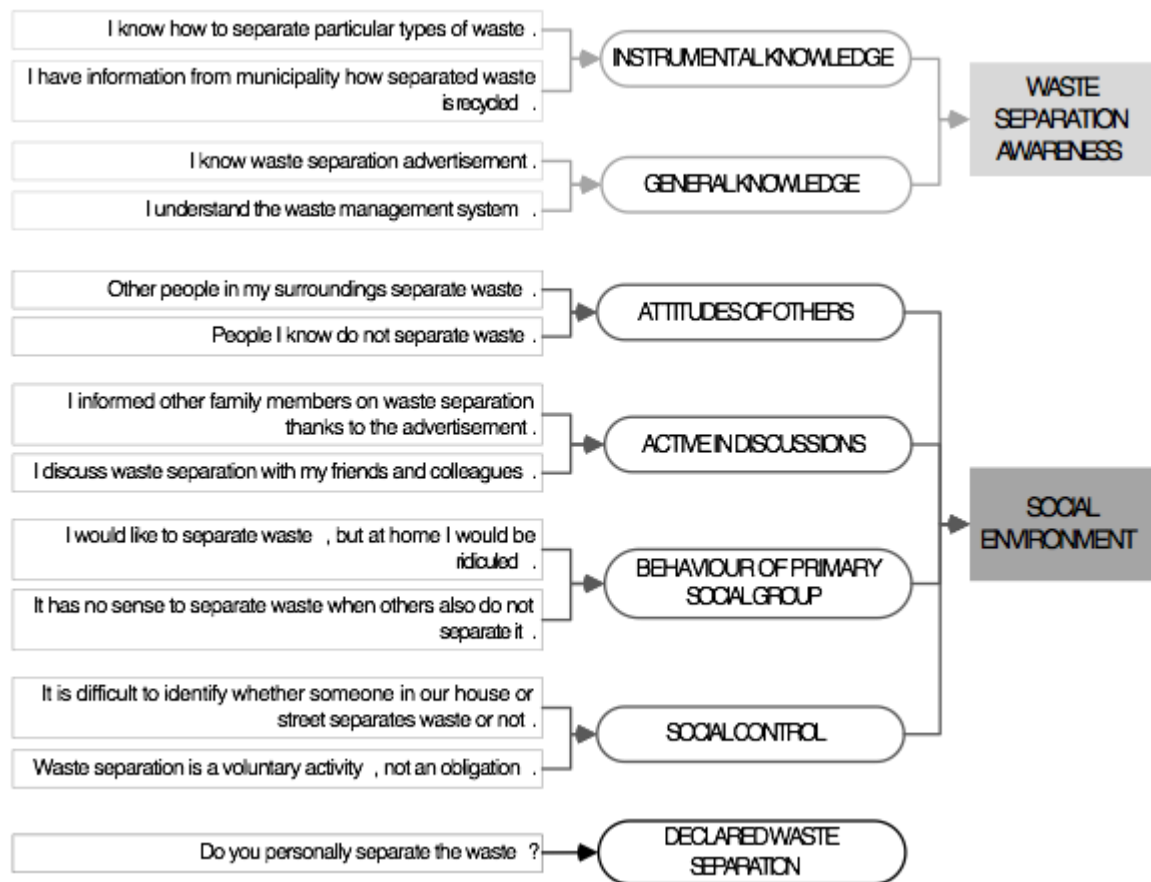
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Table 1: Development of selected waste separation outcomes in the Czech Republic

	2006 (*2008)	2012	2016
Effectiveness of separation (Kg/inhabitant*year)	27,9	39,1	44,8
Number of containers (Pcs)	146.131	229.000	307.000
Proximity of containers (m)	115*	102	96

Source: Grolmus (2009), Grolmus (2013), EKO-KOM (2017)

Figure 1: Variables and wording of statements from which variables were operationalized



Source: Slavík et al. (2017)

### 3. Methodology

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### 4. Preliminary results and discussion (*optional*)

### 5. Conclusion (*optional*)

## References

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