

# Gamification and MDA: Conceptual model to promote motivation in the elderly

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**Abstract:** *The current research aims to propose a model to enhance the motivation in the elderly to perform certain tasks. It is a conceptual model built through the application of gamification based on the Mechanics, Dynamics, Aesthetics (MDA) framework. Its development resulted from a systematic work that focused on a review of what was done in terms of gamification application and how gamification strategies were used having as support the MDA framework.*

## 1. Background

- Individuals and societies are more demanding, so there is greater need to feeling satisfaction and success in everyday life.
- Technological development has given rise new behaviors in people's lives. Games are na example, enhancers of engagement, and behavior change. The most recent phenomenon is gamification, which emerges as a catalyst for motivation.
- We have the current society characterized by an accelerated demographic ageing, it is necessary to develop projects as ways to combat ageing, and promoting ways to stimulate motivation to lead for a healthy ageing.

## 2. Methodology

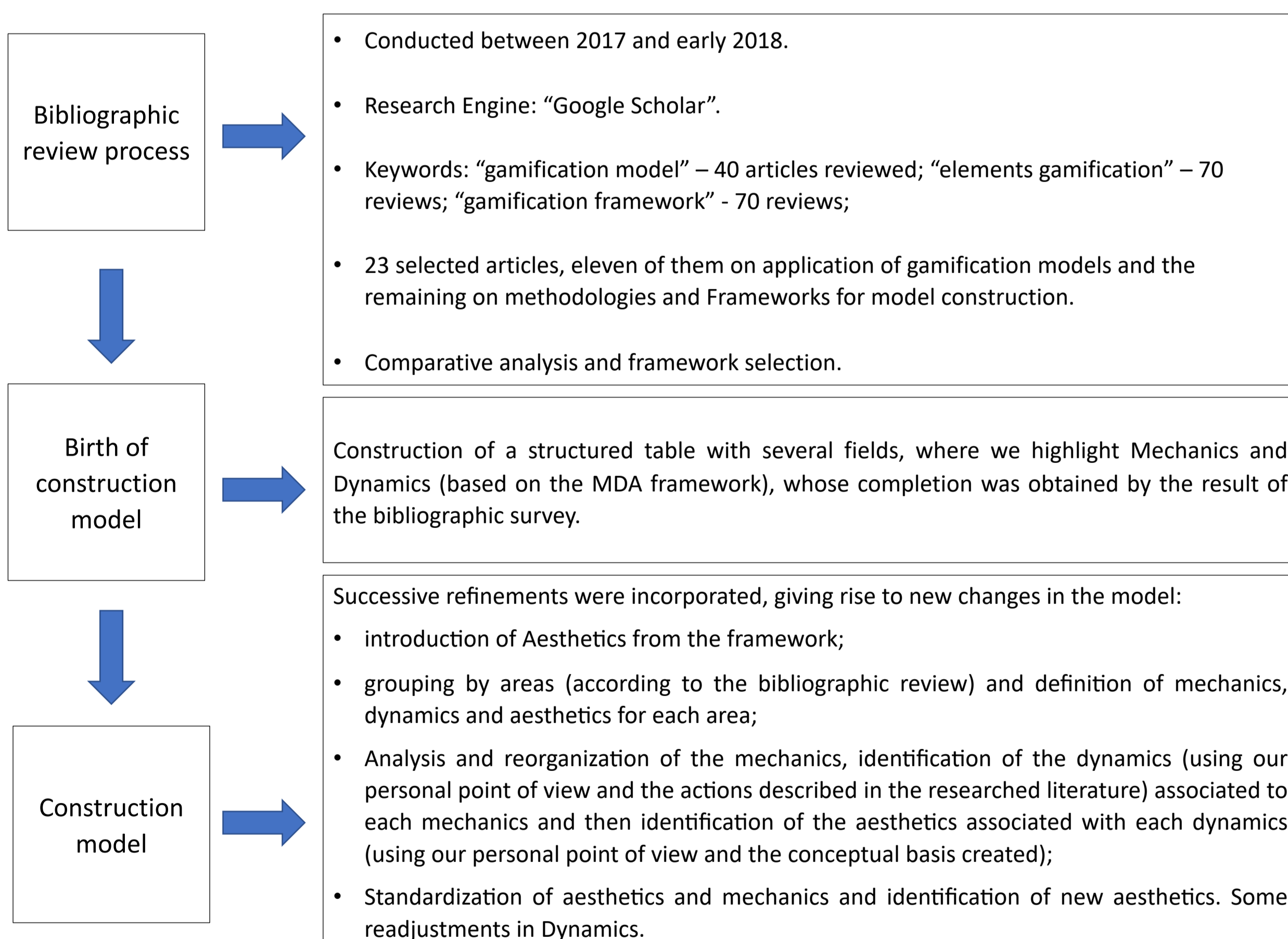


Fig 1 / Scheme on the methodology used in the construction model

## 3. Conceptual Model

The model at this stage is versatile in terms of reading, we can easily reach the emotions (aesthetics) provided to the player from any mechanics, as well as look for an aesthetic and determine which mechanics and the dynamics that give rise to it. In terms of logical operation, we intend to conjugate a certain activity of a certain form to obtain a certain behavior, that is, it is intended that through a mechanics articulated with the use of dynamics a certain aesthetic is obtained. The purpose of our study is to know the emotional side of the player in the sense of how this can be motivated.

Mechanics	Dynamics	Aesthetics												
		altruism	attraction	self-determination	competences	curiosity	engagement loop	fantasy	feedback	active participation	pleasure	social recognition	reputation	surprise
activities	initiate the activity			x		x								
	perform the activity	x		x	x		x							
	check activity carried out/fulfilled						x		x					
	do not perform the activity/fail							x						
	finish activity				x					x	x	x		
rules	comply with rules			x										
	check fulfilled rules								x					
	circumvent rules			x					x					
points	assign points						x			x	x	x		
	remove points								x					
	check points				x				x					
	show points									x	x	x		
levels	transfer points	x		x										
	exceed levels/ level up				x		x		x	x	x	x		
	show levels obtained									x	x	x		
badges / trophies / virtual goods / items (prize)	show all level				x									
	get award						x		x	x	x	x		
	search for prizes								x		x			
	list existing awards					x								
time	reward hours			x						x				
	lose awards								x					
	time restriction				x					x				
customization	mechanical countdown										x			
	create profile				x							x		
	consult preferences					x								
role	eliminate profile				x									
	set preferences									x	x			
visual effects / sound effects	take part in the game			x	x				x			x		
	abandon the role in the game				x									
	enable/disable sound effects/sounds						x		x		x		x	
	show sound effects/sounds					x								

Fig 2 / Model representation.

How can this model be used?

For example, if we want to evoke the altruism (aesthetics) of the player, we can use the "Activities" mechanics and the "Perform activity" dynamics; Another example, the mechanics "points" associated with the dynamic "transfer points" also lead to altruism.

Reading from a mechanic we can determine where this mechanics and its associated dynamics lead the player in terms of emotions: Through the mechanics "Activities" coupled with one of the dynamic "Start activity" or "Achievement activity" we trigger self-determination of the player.

Through the mechanics "Levels" coupled with the "Overcome / rise levels" dynamics, we trigger emotions such as "Competence", "Engagement loop", "Active participation", "Pleasure", "Social recognition" and "Reputation" player.

## Final remarks

The main objective of our work is to create a model that promotes motivation in people. In this work, we apply the gamification strategy to the presented model. This is because much of the literature addresses gamification as a response to motivation promotion.

We explore gamification as a strategy of motivation, but there are other forms of motivation, namely socialization. For future work we intend to study socialization strategies, associated with collaborative tools, or social networks, creating an aggregating model, to enhance the motivation of the elderly in adopting healthy living behaviors, improving their health leading them to an active ageing.