



Supplementary Materials

Inclusion of Life Cycle Thinking in a Sustainability-Oriented Consumer's Typology: A Proposed Methodology and an Assessment Tool

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Table S1. Characteristics of the four distinguished consumer types in seven areas.

	CONSUMER TYPES	ole S1. Characteristics of the four distingui	ished consumer types in seven areas.		
AREA	Voluntary simplifiers (VS)	Beginner voluntary simplifiers (BVS)	Accidental simplifiers (AS)	Non voluntary simplifiers (NVS)	
PHILOSOPHY OF LIFE	 affirmation of ascetic life; pro-environmental action made consciously and comprehensively; sustainability as a lifestyle (fully incorporated into decision-making); 	 affirmation of good and comfortable life; pro-environmental action made consciously, but selectively; sustainability as a fashion (partially and intentionally incorporated into decision-making); 	 affirmation of thriftiness; pro-environmental action made unconsciously and selectively; sustainability as an undiscovered attribute of products (partially and mostly unintentionally incorporated into decision-making); 	 affirmation of ignorance and taking the life as it comes, "here and now"; no-environmental action; unsustainability as a lifestyle (fully incorporated into decision-making); 	
DE-CONSUMPTION AND DEMATERIALIZATION (SIMPLIFICATION)	 conscious reduction of consumption (deconsumption, anti-consumption). They consume "less, but better"; application of dematerialisation – they reduce consumption on material and increase consumption of non-materials goods (or fulfil the same function with lower resource rucksack); 	■ reducing consumption is not their priority and aim in itself (they have money and economic reasons are not the main drivers for them to reduce consumption); ■ BVSs are aware that excessive consumption has negative environmental impacts. Even though de-consumption is not their life-philosophy; ■ BVSs feel remorse when buying unjustified and excessive amounts of goods. They could apply the philosophy of voluntary simplicity in the future; ■ more rational than the ideological approach;	 ASs usually make unconscious, unintentional and occasional pro- environmental decisions having de- consumption and de-materialisation features; 	 over-consumption and unbalanced lifestyle; NVSs do not apply any pro-environmental activities linked to de-consumption and dematerialisation 	





PURCHASING CRITERIA	 pro-environmental and pro-social business activity of manufacturers is important. They check and verify such information. The product is evaluated taking into consideration the overall business activity of the organisation (manufacturer); VSs prefer products manufactured locally (producers, suppliers); the price is neither a problem nor an important choice criterion, they focus on the quality and impact of products on the environment and social life); VSs pay much attention to eco-labels. This applies to all purchased goods; 	 a brand plays a strong role in their choices; not always the price (it happens to them to buy products more expensive, but of better quality, although this is not a rule, as in the case of VS); they can select local solutions (manufacturers, suppliers), but not as a rule; they pay attention to eco-labels; 	 environmental aspects are not important issues and the impact of products on the environment is not taken into account when making purchase decisions; price plays a strong role; they do not pay attention to eco-labels; they evaluate the product through the lens of the product itself and are not interested in the (pro-environmental, pro-social) activities of the organization (manufacturer); sometimes they purchase products with a better environmental performance, but they do so due to economic, not environmental reasons (less consumption of energy and water in a washing machine, means for AS only a lower electricity and 	 a price plays a key role in NVSs choices NVSs do not pay attention to eco-labels no environmentally-friendly activities with regard to their purchases;
LIFESTYLE AND ENVIRONMENTAL CHOICES	 in their baskets there are environmentally-friendly products and services; they consciously make environmentally-friendly choices in various spheres of their life (environmentally-friendly choices are an important element of their lifestyle); they apply environmentally-friendly practices in their everyday life in the area of recycling and segregation of waste, saving water and energy, as well as in other spheres of their life; they do it consciously and are motivated by ideological reasons (reduction of consumption and environmentally-friendly behaviour constitute their life philosophy); 	 they consciously make environmentally-friendly choices, but this applies only to selected products and/or spheres of their activity; in their everyday life they apply environmental practices only in a few selected areas (waste separation, water savings, energy). They do it consciously and are mainly motivated by ecological and/or economic reasons 	 they usually make unconscious, unintentional and occasional proenvironmental decisions having deconsumption and de-materialisation features; if they make any environmental choices it results from non-ideological reasons (lower costs, accordance with law regulations, no choice, comfort); 	• no environmentally-friendly activities, neither with regard to their everyday life;
MODE OF PURCHAS E	 purchasing process is complex and time-consuming, mainly due to consultation of various sources; aversion to mainstream products and multinational corporations; 	 they make purchasing decisions rather quickly and on the basis of a smaller number of sources than VS; they do not conduct a detailed analysis prior to the purchase (thus, the purchasing 	 ASs have a tendency to consider the purchasing decision carefully, but mainly because of their financial limitations; 	 thoughtless and uncritical approach to purchase decisions; NVSs make purchasing decisions quickly, spontaneously and uncritically





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		process is less complex and less time consuming than in the case of VS); BVSs like to buy mainstream products because they are trendy;	 the decision is based on a small number of informal sources and relates mainly to costs aspects; they prefer cheaper and mainstream products; 	 NVSs are very keen to purchase mainstream and globally-produced products
MODE OF GATHERING INFORMATION	 they always use professional sources of information related to general and environmental aspects of products (literature, reports of environmental organizations, experts opinion, conferences); "word of mouth" from informal sources and seller's opinion play minor role for them; 	 they use professional sources of information, but more often in relation to general features of products, than to environmental ones; they often use "word of mouth" from informal sources and seller's opinion as a source of information about products, but mixed with information taken from professional sources; 	 they do not use professional sources of information (environmental literature, reports of environmental organizations); verbal recommendations of non-experts (family, friends) and opinion of the seller in the store play very important role for them; 	 usually purchasing decisions are not preceded by collection of information (or if yes, than only informal verbal opinions). They are based mainly on observations and information obtained pn the spot and at the time of purchase;
THINKING PERSPECTIVE	 long-term and intergenerational thinking; strong sense of social responsibility; individual good equally important that the public one; egalitarians; 	 they tend to have a sense of social responsibility; they have a sense of intergenerational equity; hierarchists; 	 short-term thinking, no sense of intergenerational equity; they may be sensitive to social problems, but the individual good is most important to them and their social responsibility is rather only declarative; individualists; 	 short-term thinking (only "here and now"); no sense of intergenerational equity; no sense of social responsibility; only individual good important; individualists;
LIFE CYCLE THINKING	■ yes, as fully conscious process;	 rather yes, as conscious and selective process; they can be interested in some life cycle stages (others than only consumption/use) and pay attention on the environmental impact generated there (but it relates only to selected stages and doesn't cover the full life cycle); 	■ no, even if it is made unconsciously;	■ none;





Table S2. Composition of the questionnaire – a number of filters and their environmental relevance.

QUESTIO-	STRONG	ONG FILTERS MODERATI				AATE FILTERS WEAK FILTERS						NON-FILTERS					
NNAIRE PART	vs	BVS	AS	NVS	VS, BVS	VS,	vs, nvs	BVS,	BVS, NVS	AS, NVS	VS, BVS,	VS, BVS, NVS	VS, AS, NVS	BVS, AS,	ALL	NEUTRAL	TOTAL
NUMBER (OF FILTERS	5	_														
PC	14	10	10	11	4	1	0	1	1	1	1	1	0	0	20	15	90
MDM	9	7	3	6	0	0	0	2	1	2	0	0	0	0	0	0	30
SGI	10	1	3	9	4	0	0	6	0	2	0	0	0	0	0	0	35
SEII	10	7	7	5	4	0	0	0	0	2	0	0	0	0	0	0	35
LS-A	13	3	4	15	1	3	0	9	3	1	2	0	0	1	7	9	71
LS-B	13	7	6	11	10	0	0	2	0	0	0	0	0	0	0	0	49
TP	5	4	3	3	0	0	0	0	0	0	0	0	0	0	0	0	15
LCT	9	5	5	5	1	0	0	0	0	0	0	0	0	0	0	0	25
ENVIRON	MENTAL R	RELEVANC	E														
POINTS	4.5	3	1.5	0	3.8	3	2.3	2.3	1.5	0.75	3.0	2.5	2.0	1.5	0.225	0.0	
PC	63	30	15	0	15	3	0	2.25	1.5	0.75	3	2.5	0	0	4.5	0	141
MDM	40.5	21	4.5	0	0	0	0	4.5	1.5	1.5	0	0	0	0	0	0	74
SGI	45	3	4.5	0	15	0	0	13.5	0	1.5	0	0	0	0	0	0	83
SEII	45	21	10.5	0	15	0	0	0	0	1.5	0	0	0	0	0	0	93
LS-A	58.5	9	6	0	3.75	9	0	20.25	4.5	0.75	6	0	0	1.5	1.575	0	121
LS-B	58.5	21	9	0	37.5	0	0	4.5	0	0	0	0	0	0	0	0	131
TP	22.5	12	4.5	0	0	0	0	0	0	0	0	0	0	0	0	0	39
LCT	40.5	15	7.5	0	3.75	0	0	0	0	0	0	0	0	0	0	0	67





Table S3. The questionnaire's content – questions displayed to respondents.

PART	1 - PURCHA	•		1	
Question			RE THE FOLI		
Answers	Very important	Important	Moderately important	Little importance	Not important
Price	0	В	0		
Brand/producer					
Technical parameters (for instance model, volume, weight, size)				0	
Appearance					
Supply (origin) from local or national producers		0			
Warranty conditions					
Meeting safety requirements					
Consumption of energy or water		П			
Availability of spare parts and repair service					
Environmental performance of the product/service (impact on the environment) (for instance ecological food, cosmetics with environmental labelling, environmentally friendly detergents)		0	а		
Pro-environmental activity of the producer (company/organisation) (for instance ISO 14000 certificates, EMAS, company environmental reporting)					
Availability of the product and delivery time		В			
Durability of the product (for instance durable products and materials, even at the expense of higher price)					
Possibility of quick installation and dismantling (disassembly)					
Recyclability and reusability					
Product's/service's quality (for instance quality labels)		П			
Quality-oriented activity of the producer (organisation/company) (for instance ISO 9000 certificates, quality reports					
Social activity of the producer (organisation) (for instance SCR labels, SCR reports)					
PART 2 - 1	MODE OF D	ECISION M	IAKING		
Question		ESPOND TO	THE FOLLO YOUR ATTII SHOPPING?		
Answers	Definitively yes	Yes	Moderately yes	Somewhat no	Definitively no
I don't limit myself while shopping (I buy whatever and whenever I feel like, even if I already have a similar product) and I don't think there is any problem or anything wrong in this attitude (I can afford it so I buy)	П	0	а		
I am conscious that buying excessive amount of products is neither good for the human being nor for the environment				0	
If I limit my purchasing, I do it due to economic reasons (I cannot afford everything I would like to buy)				0	
If I limit my purchasing, it is due to ideological and non- financial reasons (excessive consumption is neither good for human beings nor for the environment)					
I normally make my purchase decisions after careful consideration. Before making a purchase I usually collect information about the product, which I intend to buy					
I make purchase decisions quickly. I purchase items without a lengthy process of collecting information about the products	П			0	





Question	HOW DO YOU COLLECT GENERAL INFORMATION ABOUT PRODUCTS? For instance regarding functionality, mode of use, reliability, availability of spare parts and repair services, producer's reputation, warranty conditions								
Answers	Always	Very often	Moderately often	Sporadically	Never				
From the salesman in the shop									
From my friends and/or family									
Opinions of anonymous users (internet forums, rankings,									
blogs) From the producer (internet website of the company, information obtained from company customer service)									
From advertisement (TV, radio, press)									
From the product's packaging									
Experts opinions and professional sources (press, programs, sectoral conferences)									
PART 4 - SOURCES OF ENVI			LLECT INFOR						
Question			PERFORMAN						
Answers	Always	Very often	Moderately often	Sporadically	Never				
From the salesman in the shop									
From my friends and/or family									
Opinions of anonymous users (internet forums, rankings, blogs)									
From the producer (internet website of the company, information obtained from company customer service)									
From advertisement (TV, radio, press)									
From the product's packaging (for instance environmental labelling, certification confirmation, testing information on the packaging)									
Experts opinions and professional sources (press, programs, sectoral conferences)									
	PART 5 - L	IFESTYLE							
Question			THE FOLLO		ΓEMENΊ				
Answers	Always	Very often	Moderately often	Sporadically	Never				
		П	П						
I save energy (for instance I use energy-saving bulbs, switch off the light, use energy-saving appliances/programs)		ntally friendly (ecolog	eral worldview, healthy zical reasons)	reasons, hobby)					
I save water (for instance I avoid washing using running water, use water-saving appliances/programs, take a quick shower instead of a bath)	I II consistent with my value system (general worldview, nealthy reasons, noppy)								
I repair, renovate, maintain (I repair products and appliances as long as they can still be used before I throw them away)		ntally friendly (ecolog	eral worldview, healthy gical reasons)	reasons, hobby)					
I take care of my annarel									
I take care of my apparel (for instance I hand wash delicate textiles, I follow carefully washing instructions, I avoid drying of clothing, I darn and repair, I carefully dosage detergents, I prefer high quality and durable textiles)		ntally friendly (ecolog	eral worldview, healthy gical reasons)	reasons, hobby)					





I give "second life" to products (I give away unnecessary products (for instance apparel, toys, furniture) to another people; I buy in second-hand shops, on second-hand auction portals and at flea markets)	Because □ consistent with my value system (general worldview, healthy reasons, hobby) □ more environmentally friendly (ecological reasons) □ fashionable (trendy) □ lower costs								
I avoid excessive consumption (for instance I buy only when I really need something or when the product I have, cannot be used anymore)	y value system (gener tally friendly (ecologiony)	al worldview, healthy cal reasons)	reasons, hobby)						
I separate waste (I separate household waste to appropriate containers)	Because □ consistent with my value system (general worldview, healthy reasons, hobby) □ more environmentally friendly (ecological reasons) □ lower costs □ legal requirements								
I prepare waste for segregation (for instance I sort different materials, i.e. I separate paper from plastic foils in envelopes and bottles, tapes and staples from cardboard; I wash especially dirty waste packaging) Because consistent with my value system (general worldview, healthy reasons, hobby) more environmentally friendly (ecological reasons) lower costs legal requirements									
In everyday life I use environmentally friendly means of transport (I use public transport or a bike) □ consistent with my value system (general worldview, healthy reasons, hobby) □ more environmentally friendly (ecological reasons) □ lower costs □ lack of other choices									
I use car sharing and/or home sharing									
for instance: I share car with colleagues arriving with me to work; I rent a car sporadically when needed, instead of having my own car; I use car-sharing services like Bla, Bla Car and Uber; I use home sharing services like Airbnb and Couchsurfing)	Because □ consistent with my value system (general worldview, healthy reasons, hobby) □ more environmentally friendly (ecological reasons) □ lower costs □ lack of other choices								
I buy popular, so called, "mainstream" products (for instance apparel or cosmetics from chain stores, furniture from popular chain shops)	Because more environment lower costs lack of other choice comfortable/easy a		cal reasons)						
I buy online	Because □ more environmen □ lower costs □ lack of other choic □ comfortable/easy a		cal reasons)						
PART	6 – THINKIN	G PERSPECT	TIVE						
Question	TO WHAT EXTENT DO THE FOLLOWING STATEMENTS CORRESPOND TO YOUR ATTITUDE TOWARDS ENVIRONMENTAL PROBLEMS?								
Answers	Definitively yes	Yes	Moderately yes	Somewhat no	Definitively no				
"Common good is equally important as individual good"									
"Environmental pollution is a short-term problem and refers mainly to us and not to the future generations (they will manage, for instance through development of new technologies)"									
"Environmental pollution is a long-term problem and it refers to both – the current and the future generations"									





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PART 7 – LIFE CYCLE THINKING									
Question	HOW IMPORTANT TO YOU IS ENVIRONMENTAL PERFORMANCE OF A PRODUCT IN ITS DIFFERENT LIFE CYCLE STAGES?								
Answers	Very important	Important	Moderately important	Little importance	Not important				
Extraction of natural resources									
Transport/distribution									
Production/manufacturing									
Use/consumption									
End-of-life/waste treatment									

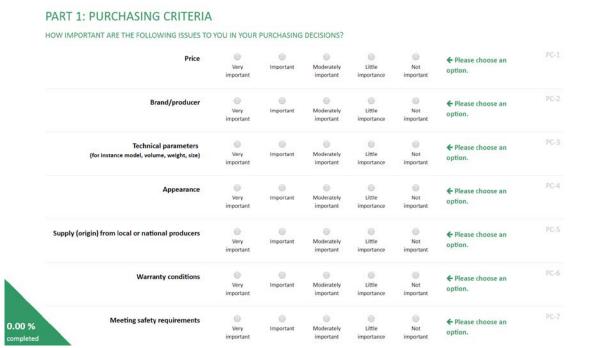


Figure S1. Part of answering page of the questionnaire (Part 1 – Purchasing Criteria).





Scoring configuration

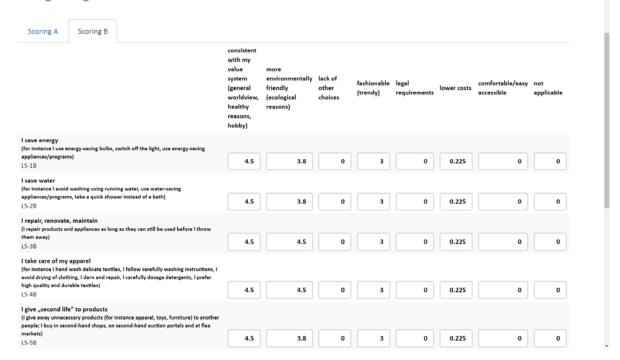


Figure S2. Example of scoring configuration (B) for Part 5 of the questionnaire (Lifestyle).