**Appendix 2: The ELM Conceptual limitations**

***Parallel Information Processing***. In Stiff’s eyes, the schematic diagram depicting the *ELM*’s sequential logic (as described by Petty and Cacioppo 1986) perfectly illustrates this unidimensional conceptualization of individual’s information processing ability. Indeed, as Stiff and Boster (1987, 250) point out, “[a]t each point of view, they are depicted as channeling their efforts to either central or peripheral processing, but not both.” . Put it differently, according to Stiff, the *ELM* does not take into account the human ability to conduct parallel processing of information.

***Variables’ Ambiguity***.Another recurrent conceptual limitation concerns the *ELM*’s inability to clearly indicate as to why some variables serve as peripheral cues and others as central elements (Corneille 1993). The *ELM* authors initially linked specific elements to each route. They originally argued that the message’s arguments correspond to elements of the central route, whereas the source-related variables (e.g., credibility, attractiveness) are related to the peripheral route. However, in a refined version of the *ELM*, the postulate of the multiple roles of the same variable has been emphasized to address the criticisms concerning the ambiguity associated with the distinction between the *ELM* central and peripheral variables.

***Conceptual Flexibility***. The ascribed multiple roles to a given variable led to another conceptual limitation, however. In fact, a serious consideration of the multiple roles postulate implies that any observed finding of a given persuasion study might be able to support the *ELM*. In other words, by embracing this postulate, the authors afford a sort of conceptual flexibility that puts into question the falsifiability of the model and consequently its theoretical value (Stiff 1994) as well as its practical worthiness (Bitner and Obermiller 1985).

***Lack of a Priori Conditions and the ELM’s Un-deterministic Nature***. From the *ELM*’s conceptual flexibility stems another conceptual limitation manifested in the failure of the *ELM* to specify a priori the conditions under which a given persuasive element can be treated as central or peripheral by the receiver (Mongeau and Stiff 1993). By proposing a qualitative distinction between the central and peripheral routes, Petty and Cacioppo suggest that the recipient’s level of elaboration is the key determinant of the persuasion route to be taken. However, the *ELM* was unable to explain how elaboration (e.g., the cognitive effort) is operationalized and measured. Does elaboration refer to the amount of information in the working memory or the cognitive patterns activated in the long-term memory? From which threshold can one consider that the level of elaboration is high or low? All of these issues question the *ELM*’s predictive performance in terms of determining which route will be undertaken by the recipient in a persuasive setting (Mongeau and Stiff 1993).

***Unclear Underlying Mechanisms***.The *ELM* has been also criticized for the fact that attitude change measures are made a posteriori (i.e., after the very exposure to the persuasive message) using Likert or semantic differential scales of attitudes. As such, this method of attitude change measurement is questionable from the perspective that it does not allow to authentically infer the underlying processes inherent to the triggered cognitive responses, which are the key drivers of the attitude change[[1]](#footnote-1). Accordingly, the *ELM* fails to explain the psycho-cognitive mechanisms underlying the processes of persuasion (Mongeau and Stiff 1993). The *ELM* is then criticized for its predictive inability, in that it explains the findings a posteriori (Mongeau and Stiff 1993).

***ELM’s Descriptive Nature***. The abovementioned conceptual limitations stemming essentially from the *ELM*’s conceptual flexibility make it essentially a descriptive model. Indeed, Eagly and Chaiken (1993, 321) criticize this descriptive nature of the *ELM* by suggesting that

[t]hese inferences are descriptive . . . because the model does not specify on an a priori basis why exposure to many (vs. few) arguments ought to motivate or enable objective processing, why prior knowledge ought to motivate or enable biased processing, or why source variables ought to motivate objective processing when the elaboration likelihood is moderate.

***Artificiality of the Qualitative Distinction***. Chief among the stream of the conceptual limitations of the *ELM*, Kruglanski and Thompson (1999) argue that the *ELM*’s qualitative distinction between the central and the peripheral routes is artificial. In particular, they point out that there are not two routes to persuasion but rather one. According to the *unimodel*, dual-process models, such as the *ELM*, do not describe qualitatively different processes but depict only more or less complex variants of the very same underlying mechanism of the persuasion phenomenon.

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1. As a remedy, thoughts’ listing has been used in conjunction with attitudes’ scales. Nevertheless, this method is not without its own limits such as demand characteristic and social desirability. [↑](#footnote-ref-1)