

Effects
of user interfaces
on expression

Université

de Strasbourg

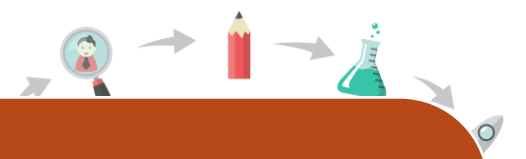
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Introduction

Abraham Moles - theory and aesthetic perception (1958)

- *“the question of the transmission of forms confronted with their aesthetic criteria”.*

The question of the form and its deformation, as a result of the encapsulation : we have to consider that by which, in our digital uses, we access it: the interface (GUI).



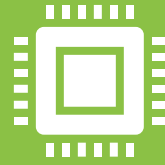
Interfaces put us as humans, in connection with machines in real and virtual environments.

In these environments, the shapes, storyboarding that take place give the informational and communicational objects, new properties.

The scope and intensity of the effects on users obviously are of interest to researchers.



Fake news : *sin language* ? (Kammerer)



Aiming at apprehending in a digital frame coloring technology, exchanges and transactions permitted by the interface.



The interface prints to the screen the slightest pixel represented as microscopic entity of an image, a video or any content.



It hardly can be avoided



Questions

How these users perceive interfaces in their reports to information and expression activities?

How can the interfaces, to some extent, be part of the Fake and ultimately divert our freedom of expression ?

Plan



State of the art : Components of the man-machine interface (field of cognitive ergonomics).




Methodology



Results



Discussion and conclusion



From representation to the acceptability

- Researches done about the interface in the UI or the TEL community
 - whether to define engineering models
 - or manual or automated process by which the interface adapts to the user interfaces adapted progressively passing then adaptable and adaptive today based on artificial intelligence.
- Effect of the interface information is a complex subject, hardly recognized by public policy, since even today it is primarily the content or the infrastructure that debate before the container interface, here understood as technical object, revealing information.

Interface evaluation



Many models



Many ergonomic standards adopted, allowing rebound effect are defined stunts patterns models, for cycles iterative or agile methods assumed, to more human computer interaction or a better user experience.



The affordance allowed to clearly distinguish two important concepts that are the usefulness and usability of a system (FD Davis, 1989) (Nielsen, 1993).



Some work has highlighted the adaptability of property to the context and user preferences, reflecting the ability of a system to be flexible.

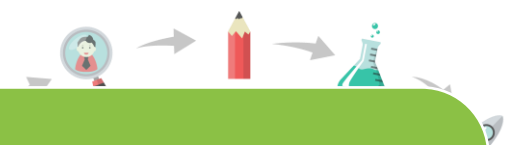


Social acceptability

Researchers in Humanities and Social Sciences and Cognitive Ergonomics as Brangier or Scapin, have developed an approach of social acceptability which highlights the importance of social norms, self-image, in the acceptability of up the concept of human-technology symbiosis (Brangier 2003) (Brangier, Hammes Adele & Bastien, 2010).

Nowadays focus on Information displayed by the interface - rather than on the content. - Graphic trends - Flat-design, or virtual or memetic skinmorphs.

The message indicates it supports the interface points, or conversely, filter or distort the information itself without original intention of the issuer.

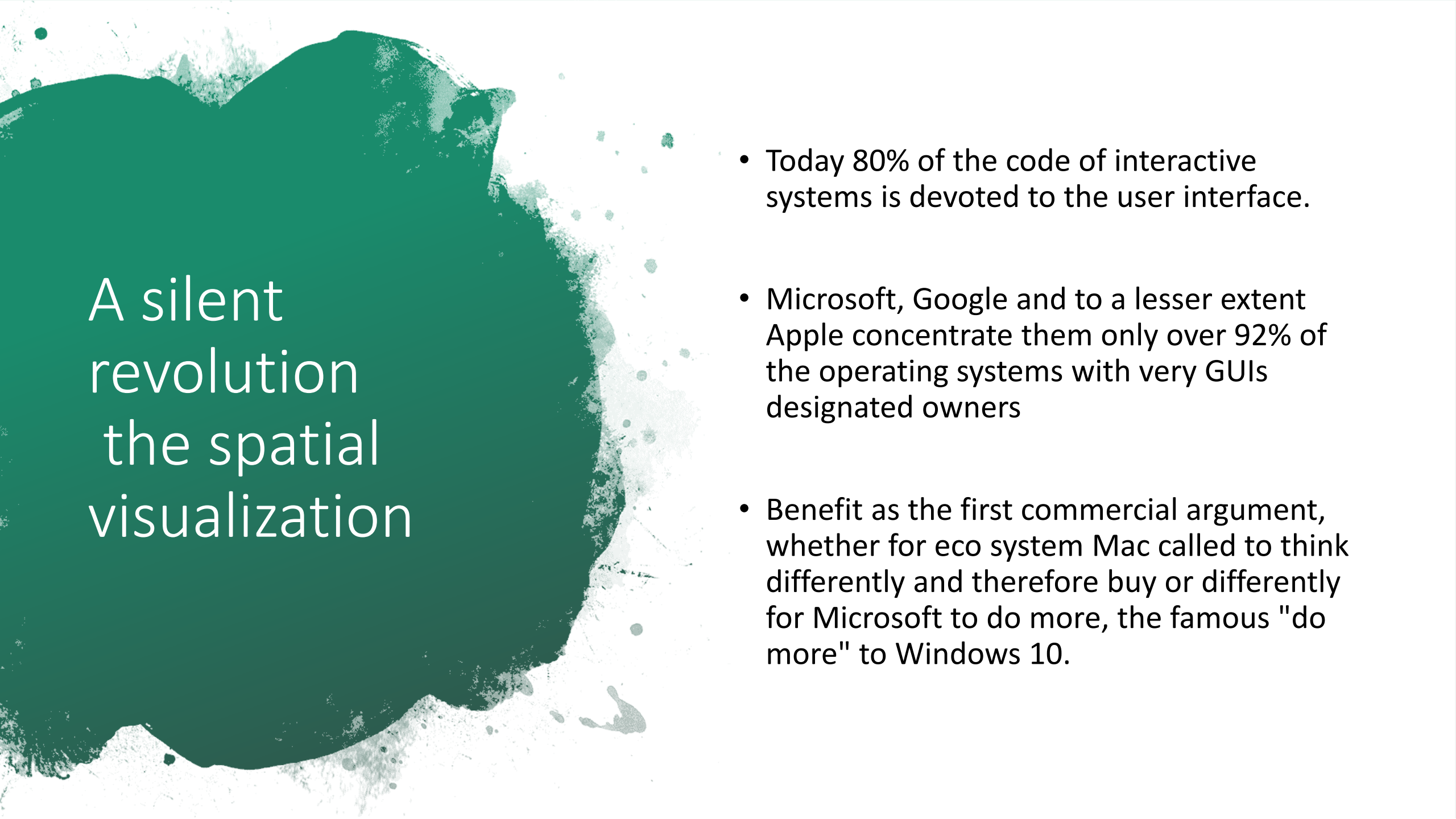


Digital truth vs fake reality ?

For the adaptive design, namely automatic content adaptation to the properties of the terminal from which it is viewed,

The metaphorical and dynamic representations of the world are now carriers of a deep antagonism between truth and reality,

Where the narrative and evocative effects to work from Digital printing, differentiated formats and access platforms, seem to have taken over the information itself.

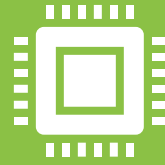


A silent revolution the spatial visualization

- Today 80% of the code of interactive systems is devoted to the user interface.
- Microsoft, Google and to a lesser extent Apple concentrate them only over 92% of the operating systems with very GUIs designated owners
- Benefit as the first commercial argument, whether for eco system Mac called to think differently and therefore buy or differently for Microsoft to do more, the famous "do more" to Windows 10.



Interoperability
of data does
not necessary
imply
interoperability
of use



Multimodality : business who make us think data interoperability means interoperability of use.



A 5 year old can easily use a smartphone, hardly a desktop computer,



"silent revolution" : introducing a fragmentation that has not reduced the digital divide problem, but moved it and from an unequal access and network coverage to a problematic use.

Windows interface as a “thought process”

The metaphorical representations of the window by Douglas Engelbart and Alan Kay as support and materialization of a thought process, still in desktop computers.


But these representations have knowingly been questioned by smartphones manufacturers

Initially : concept of spatiality in desktop applications



- Eg : managing windowing difficult to activate in a single application.
- Displaying the window management icons that has disappeared from the main window on the smartphone.

The window : a matter of perception



The window is both object and mental place that represents and returns information.

Don Norman also points about interfaces that "to think, we need to perceive."

The results of the work conducted in cognitive psychology and around the activity shows that the human mind works well when it has spatial cues, and, in this case, the GUI window gives it such landmarks: a window , an object.

The user, by transposition from real to virtual has these objects as he wishes, and he communicates with them.

The new viewing window



EMBODIED IN THE BROWSER WINDOW IS THUS INCREASED, OBJECT TO THE POINTER, CLICKING FOR OPENING AND REDIRECTION TO AND FROM HYPER CONTENTS.

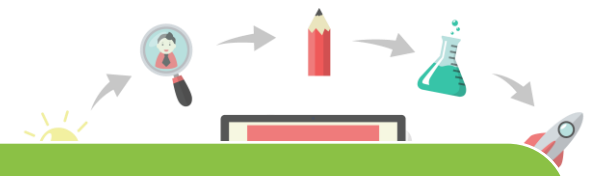


THE SPACES WITHIN WHICH ORGANIZE MEDIAS HAS THUS EXPANDED, MAKING THEM MORE ACCESSIBLE BUT PARADOXICALLY MAKING IT MORE COMPLEX FOR MESSAGES TO BE ACCURATELY UNDERSTOOD, THE WINDOW BEING DEVOIDED OF SPATIAL CUES.



THIS PARADIGM RAISES CONFUSION AND BREAKS THE INTERFACE ORIGINALLY DESIGNED AS MASS MEDIA – UNIFIED OBJECT

Instrumental genesis matter



The question of ownership of the interface, from the perspective of instrumental genesis - in reference to the work of Pierre Rabardel (1995) - instrumentalisation and instrumentation artifacts process – and Pascal Marquet (2005) instrumental conflicts.

Instrumental conflicts involving these artifacts, technical artifacts, teaching and learning take shape and reveal some of their effects by the interface. But also the question of what returns these interfaces, which is perceived to be closer and closer to the content itself of Fake.

Variation of the sense of self-efficacy has also been observed (Bandura, 2004)



The new Interface paradigm

With mobility, we passed an old paradigm - the document window - as a manipulation of ideas that are represented, each window is a document, towards a new paradigm, the document object.

The terminal being the document, rigid today, tomorrow foldable and flexible;

Document where thoughts, ideas and emotions publicized aggregate and interact according to the desire or knowledge of the user in flexible time frames, thus amplifying the emotions.

The adaptable interface as facilitator condition intends to use in response to the desire of controllability

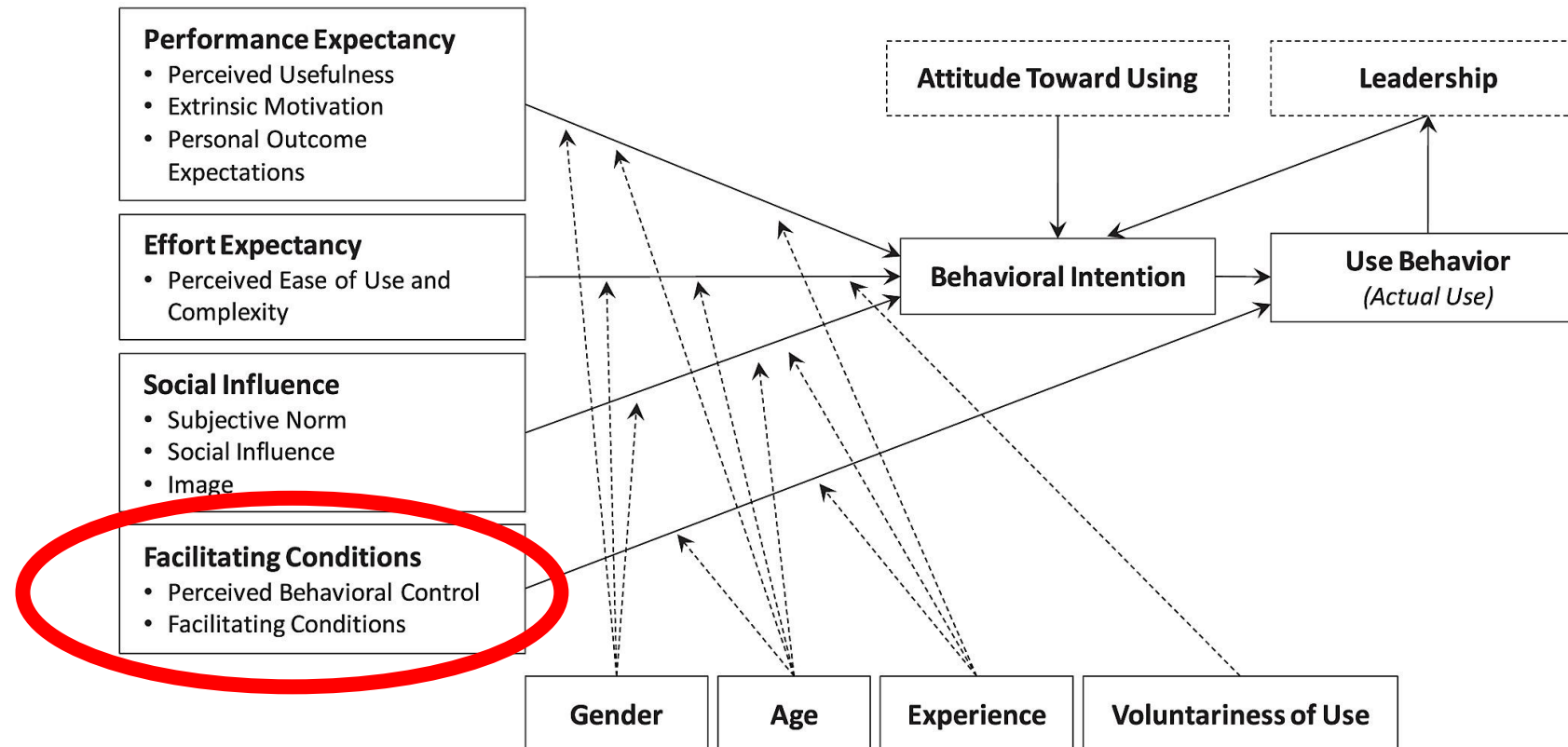


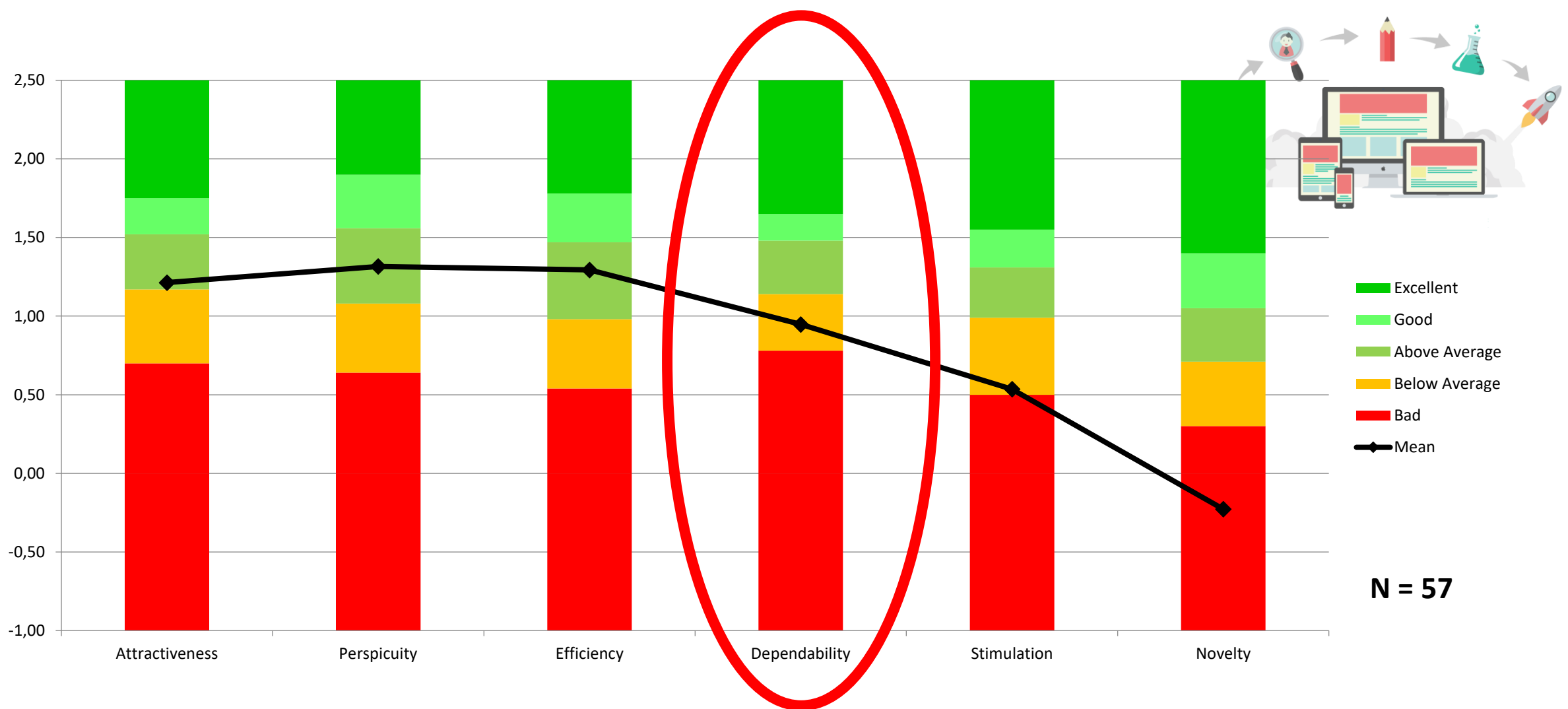
So exactly how users in a context of use of the interfaces perceive their relationship to information and expression activity?

Theoretical analytical frameworks



- The instrumental genesis (Rabardel, 1995)
- The instrumental conflicts (Marquet, 2005)
- The Unified Theory of Acceptance of technologies (UTAUT) – (Venkatesh, 2003)





Hinderks, A.; Schrepp, M.; Domínguez Mayo, F.J.; Escalona, M.J. & Thomaschewski, J. (2019). Developing a UX KPI based on the user experience questionnaire.
 Schrepp, M.; Hinderks, A. & Thomaschewski, J. (2017). Construction of a benchmark for the User Experience Questionnaire (UEQ).
 Schrepp, M.; Hinderks, A.; Thomaschewski, J. (2017): Design and Evaluation of a Short Version of the User Experience Questionnaire (UEQ-S).

RESULTST

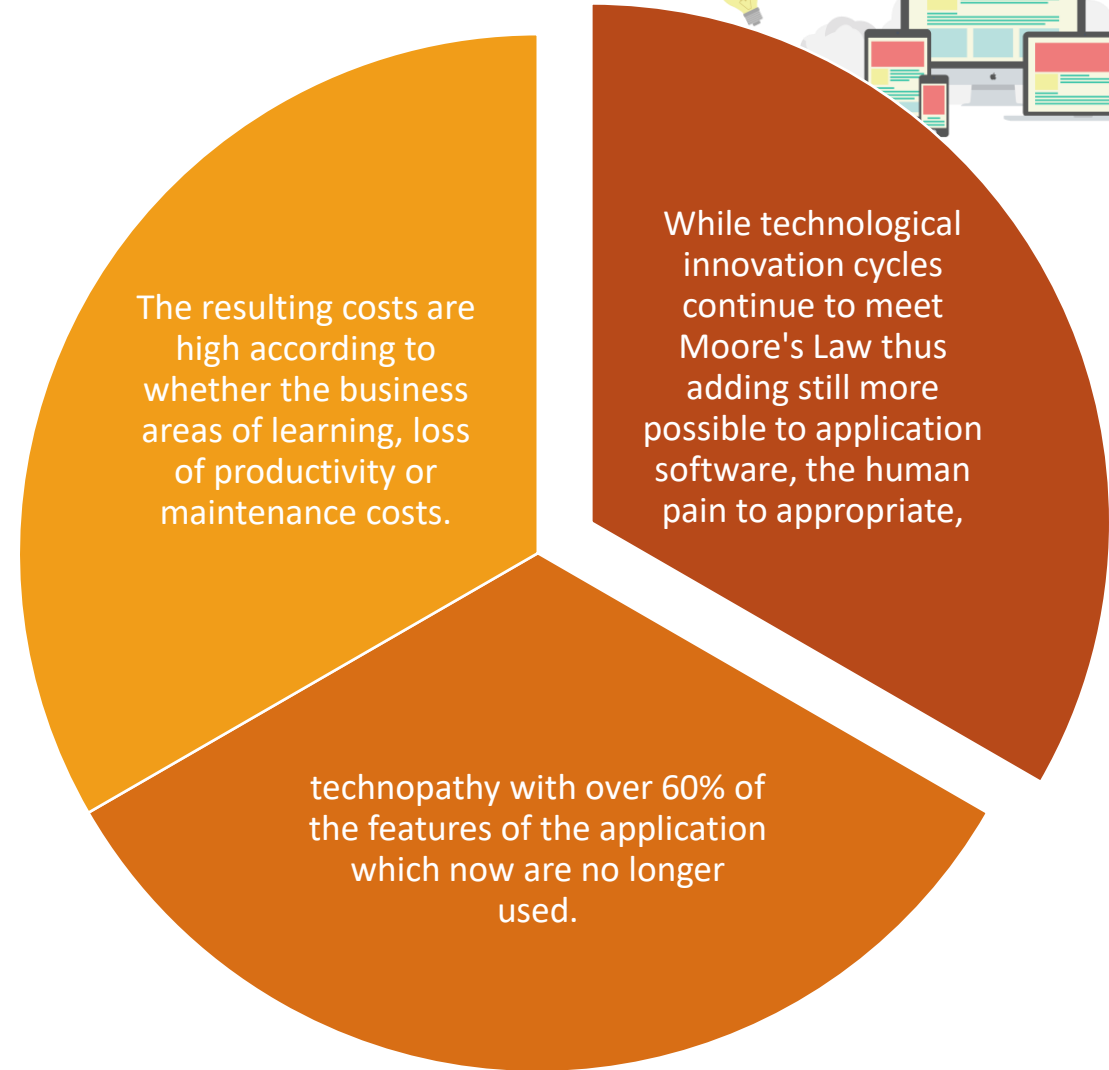
User Experience Questionnaire

UEQ

DISCUSSION

- We observed that the interface is a facilitative conditions as explanatory variables in a usage status predict the intention of adoption.
- Furthermore the assessment that students and professionals are waking software to end information processing in a monitoring process revealed as major determinant critical rejection, the dependability of the interface, permitted or not by the adaptation of the interface,
- and stimulation and novelty which both can paradoxically bring new dependability problems.

Conclusion



Artificial intelligence – Fake producers ?

Taken as a third revolution promises to be an increased entity of the human, helpful and reliable.

Or as an anthropomorphic fantasy (Cadoz, 1995) - which also appeared from the beginning of the computer intended to replace the human brain.



Artificial intelligences as new hybrid entities

- Possible emergence of a new framework of standards and values that are well on the horizon, likely setting to redefine the contours of expression ?
- The interface acting as hypnotist meta blocking discernment or intent, or as generator new informational and communicational possible ?
- *"I always dreamed of a computer that is as easy to use as a phone. My dream came true: I do not know how to use my phone anymore."*
Bjarne Stroustrup. C++ inventor

Interface and freedom of expression



Shall, can the interface act for freedom of expression, lost or distorted by fake news ?



A real challenge posed by artificial intelligences.

Thank you for your
attention

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