ORGANIZATION AND CONSUMER INTENTIONS TO USE E-COMMERCE IN MOROCCO: AN EMPIRICAL STUDY

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Abstract - This research focuses on the study of the factors influencing the intention of adopting and using electronic commerce by the consumer and the Moroccan entrepreneur. The interest was to identify the main perceptions related to the adoption of this technology in the aim, on the one hand, to contribute to the progress of research with regard to the question of adoption of technologies, and on the other hand to seek to Understand the reasons for the relatively low adoption level of e-commerce in Morocco.

Keywords - Adoption, Consumer, E-commerce, entrepreneur, intention, use.

I. INTRODUCTION

Over the past decade, the development of the World Wide Web (www.) has democratized the use of new information and communications technologies (ICT) by companies (Grandon and Pearson, 2004). These new technologies can be used strategically in the commercial development policies of many private, public and government companies. In this context, ecommerce appears as one of the emblematic figures of this phenomenon.

E-Commerce becomes the new mode of consumption of Moroccans. The sector experienced an exponential change from 197000 online transactions in 2010 to more than 2 million transactions in 2017 with approximately 500 active trading sites. New online payment platforms and new sites are born every day to satisfy the demand of a promising market. The sector is on the move and all that is lacking is the lifting of certain barriers so that e-Commerce develops and is established intensely in the morals of the citizens. However, training in the specialized trades of ecommerce and marketing is paramount for the development of electronic commerce. Moreover, on the legal front, the major bases governing online commercial transactions are already laid down by regulatory texts, but it is believed that this sector needs specific legal standards avoiding any risk of abuse or slippage. In our research, we have chosen to position ourselves, both in the context of the consumer and the entrepreneur, to propose the following problem:

What are the factors and perceptions that influence the intentions of consumers and entrepreneurs with regard to the adoption and use of e-commerce in the Moroccan context?

II. RESEARCH METHODOLOGY

We have formulated the working hypotheses in doublevision analysis according to which: Firstly, the intentions of Moroccan consumers towards the adoption of e-commerce are mainly influenced by their perceptions in terms of the utility, ease and risks generated by the system. These hypotheses will be tested by quantitative analysis under smart PLS on a sample of 98 consumers using a survey. This part will be executed by using the method modeling of structural equations. Secondly, the intentions of the Moroccan entrepreneur to adopt E-commerce are based on the strength of the company's resources to operate effectively and jointly. These assumptions will be studied by a qualitative analysis with the Nvivo software on a sample of 20 companies using an interview guide. This part will be carried out by an analysis of the content.

III. LITERATURE REVIEW

A. The Resource-based approach

The resource-based approach has been used in a lot of Information technology studies, focusing on measuring the competitive advantage of IT and identifying key competitiveness resources. Grant (1991) proposed to classify a company's resources into three categories: tangible resources (financial capital and material assets), intangible resources (reputation, branding, product quality...) and resources related to Staff (know-how, training...). It states that companies can have a competitive advantage and create performance by assembling and integrating these different types of resources Bharadwaj (2000) showed that the interaction of these different types of resources could improve the Competitiveness of companies.

B. UTAUT model of VENKATESH, 2003

an information system and the subsequent use behavior. The theory supports four key concepts: (1) performance expectancy, 2) expectancy effort, 3) social influence, and (4) facilitating conditions. The gender age, experience and voluntariness of use are laid down to moderate the impact of the four key constructions on the intention and the behavior of use.

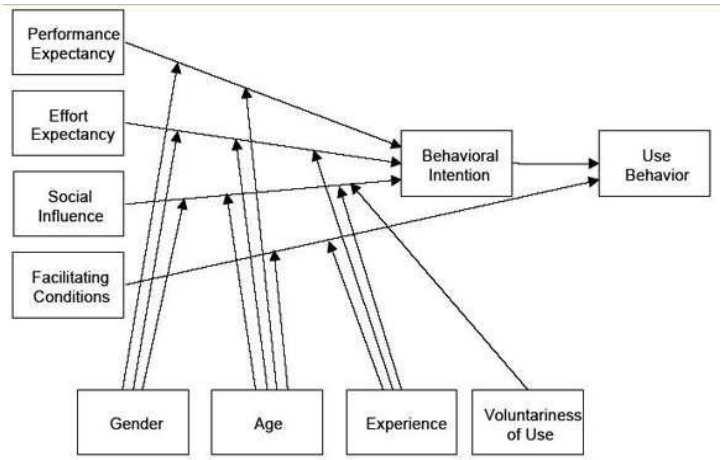
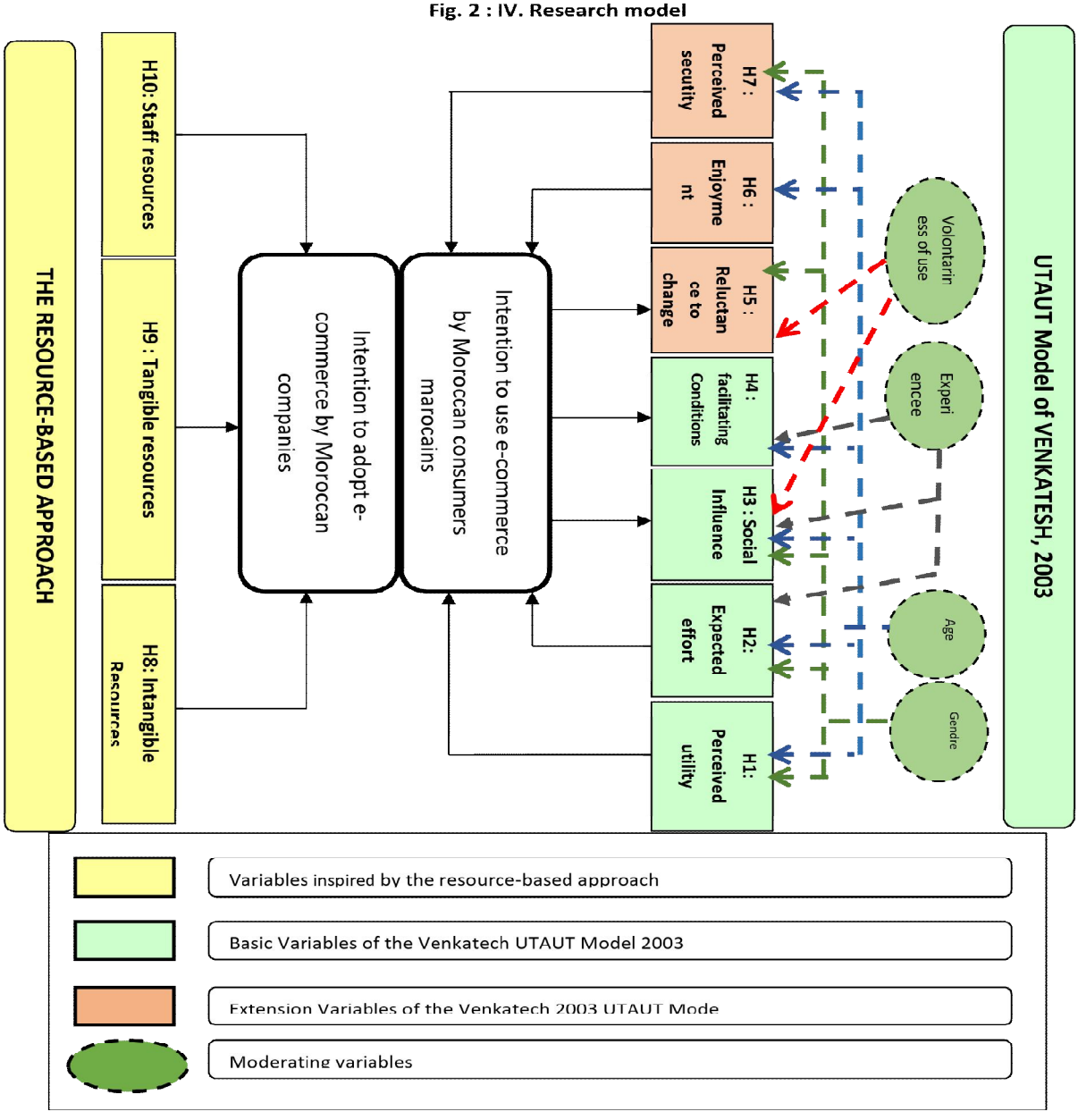


Fig. 1 : Modèle UTAUT DE VENKATESH, 2003.

IV. RESEARCH MODEL

Fig. 2 : IV. Research model



V. RESULTS OF THE QUANTITATIVE STUDY DEDICATED TO THE MOROCCAN CONSUMER

Table 1. Quantitative results

Variables	Alpha de Cronbach	AVE	R^2	Q^2	Linked hypothesis	t Value
Facilitating Conditions	0,794	0,704			Facilitating Conditions -> Intention of use	2,246
Expected effort	0,845	0,763			Expected effort -> Intention of use	2,584
Enjoyment	0,914	0,852			Enjoyment -> Intention of use	1,442
Social Influence	0,879	0,888			SocialeInfluence -> Intention of use	0,120
Intention of Use	0,785	0,821	0,544	0,356	-	-
Reluctance to change	0,706	0,672			Reluctance to change -> Intention of use	0,975
Perceived security	0,913	0,852			Perceived security -> Intention of use	0,983
Perceived utility	0,777	0,528			Perceived utility -> Intention of use	2,416
Gender	1,000	1,000			Moderating effect 1 Gender/ Perceived utility -> Intention of use	0,167
					Moderating effect 2 Gender/ Expected effort > Intention of use	0,570
					Moderating effect 3 Gender/ Social Influence -> Intention of use	1,476
					Moderating effect 4 Gender/ Reluctance to change -> Intention of use	0,943
					Moderating effect 5 Gender/ Perceived security -> Intention of use	0,558
Age	1,000	1,000			Moderating effect 1 Age/ Perceived utility -> Intention of use	0,512
					Moderating effect 2 Age/ Expected effort -> Intention of use	0,553
					Moderating effect 3 Age/ Social Influence -> Intention of use	0,199
					Moderating effect 4 Age/ facilitating Conditions -> Intention of use	0,267
					Moderating effect 5 Age/ Perceived security > Intention of use	0,475
					Moderating effect 6 Age/Enjoyment -> Intention of use	0,060
Experience	0,711	0,822			Moderating effect 1 Experience/ Expected effort -> Intention of use	1,647
					Moderating effect 2 Experience/ Social Influence -> Intention of use	0,429
					Moderating effect 3 Experience/ facilitating Conditions -> Intention of use	2,353
Volontariness of use	1,000	1,000			Moderating effect 1 Volontariness / Social influence -> Intention of use	0,283
					Moderating effect 2 Volontariness / Reluctance to change -> Intention of use	0,012

A. Evaluation of the measurement model

The reliability of internal consistency

We will measure the reliability of internal coherence by two measures: Cronbach's Alpha and composite Reliability (Chin, 1998; Hair et al., 1998). These indicators range from 0 to 1. All our values are greater than 0.7. These indicators are therefore sufficient to conclude that our model is more or less reliable (Hair et al., 1998), especially for our internal variable "Intention to use" with an $\alpha = 0, 785$. This means that more than 50% of the variance in the observed variable is due to its items.

Convergent validity

The convergent validity of the measurements is based on the examination of the correlations of the measurements with their respective variables. For convergent validity, AVE must have a value greater than or equal to 0.50 (Fornell and Larcker, 1981). All values obtained for AVE are greater than 0.50. We can infer that the convergent validity of our model is now satisfied.

The discriminant validity

To verify the discriminant validity of the variables, the correlation of the items to the square roots of the AVE must be compared. In fact, the discriminant validity is considered conform when the shared variance between a variable and any other variable is less than the variance that is shared by the varibale with its indicators (AVE) (Sosik al., 2009).

In our result, we find that, for each latent variable, the highest values of the saturation coefficients belong to the measurement variables expected to represent them. This allows us to confirm the satisfaction of the discriminating validity of our research model.

Evaluation of the structural model

After having validated our measurement model, we will now proceed to estimate the overall quality of our structural model based on the predictive relevance of the latent variables. Indeed, to evaluate the structural model, it would first be necessary to analyze the quality and the predictive power of the model by calculating the coefficient of determination R^2, the coefficient Q^2 of Stone-Geisser, the fit index GoF "Goodness of fit "and then testing hypotheses.

The R^2 allows the understanding of the contribution of each latent variable to the prediction of the dependent variable. Chin (1998) proposed interpretive thresholds for this coefficient:
R2> 0.67 (substantial), 0.67 <R2 <0.33 (moderate), 0.33 <R2 <0.19 (low), R^2<0.19: not relevant. In our research, we have obtained $R^2 = 0.544$.

The Stone-Geisser coefficient (Q^2), also called the crossvalidation redundancy index, measures the quality of each structural equation. If it approaches 1, then the model has perfect predictive validity. If not, if it is negative, it should be noted the lack of validity. So we performed this calculation under Smart PLS and we got a $Q^2 = 0.356$.We find that the Q^2 coefficient value is positive for our dependent variable, which further confirms the predictive quality of our structural model.
Finally, to better rule on the predictive capacity of the model we will calculate a last indicator which is the "Goodness of fit". This is the geometric mean of the average of the communities (external model) and the average of R^2 (internal model). Wetzels, OdekerkenSchröder and Van Oppen (2009) suggest that values of 0.10, 0.25, and 0.36 claim a low, medium, and high adjustment. So, in our research model, the index GOF is calculated by the communality and explained variance of our only dependent variable, the "intention of use" : GoF = $\sqrt{}$ (0.821) * (0.544) = 0.66829933. This value states that our model expresses a good level of fit of the overall model.

Test of research hypotheses

We will first test the hypotheses of our research model without considering the moderating variables. Then, in a second step, we will retest our hypotheses by integrating one moderating variable at a time. Thus, we can analyze the moderating effect of each variable in our search model.
We included in our model the variable "Perceived utility" as antecedent for use. The linear relationships tested are significant and positive. Indeed, the more the Moroccan consumer perceives that the online purchases are as useful as the purchases made in store more his intention to use the electronic commerce increases. However, the moderating effect of the gender and age variable on the relationship between perceived utility and intention of use could not be proven. It can be deduced that the Moroccan consumer is beginning to feel the usefulness of e-commerce in terms of efficiency, performance and delivery time, whatever his gender and age.
As shown in the table above, the "Expected Effort" variable was judged by ours analyzes to be reliable and valid. The items we chose to measure the expected effort were also validated. However, the moderating variables do not affect the linear relationship between the expected effort and the intention of use. There is a direct effect of the expected effort on the variable explained "the intention of use". Indeed, the more the consumer realizes that he will not make an effort to order online more his intention of buying online increases regardless of gender, age and online shopping experience.

We have included in our model the variable Social Influence, as antecedent to "intention, of use" based

on the work of Venkatech et al (2003). The link between social influence and the intention of usage could not be validated. The assumption that social influence has a positive effect on the intention of use of electronic commerce by the Moroccan consumer is not significant and therefore rejected. Therefore, no moderating variable influences this relationship. Thus, referents, important people and opinion leaders do not push the Moroccan consumer to order online.

The table above shows that the relationship between the facilitating conditions and the intention of use is significant, so that the more the Moroccan consumer has the conditions to be able to order online more his intention to use electronic commerce increases and manifests itself. However, this relationship is moderated by the experience effect. The consumer who has already tried to buy online, its intention to reuse the system within the presence of facilitating conditions (technological resources, technological knowledge, assistance, ...) will be more strong. However, the age of the consumer has shown no moderating effect on this relationship. The reluctance to change that we included in our research model as a factor limiting the intent to use ecommerce could not be validated. This shows that the Moroccan consumer is starting to get used to ecommerce and accepts this new mode of distribution regardless of gender. In addition, even the consumer who does not express will of use of the electronic commerce, does not refuse this new concept but just it does not suit him and does not answer his needs.

B. Treatment of results, inference and interpretation

Frequency of words

By executing the calculation of the 50 most frequent words using the query "Frequencies of words" at the Nvivo software , we see that the words: "influence", "a lot", "positively", "moderately", "important" , "Importance", and "always" are among the most common words after those relating to the research theme such as "commerce", "electronics", "business", etc. .... Indeed these frequent words, which have positive aspiration, reflect a first vision of analysis that confirms the positive influence link between the resources of the company and the intention of adoption of electronic commerce by the Moroccan entrepreneur.

Results of content analysis

We notice that the Nvivo software was used for the textual analysis of the answers to the open questions of the interview. However closed dichotomous questions (in agreement / disagreement) are treated by "Excel".

The assumption supporting that intangible resources positively influence the intention of adoption of ecommerce by the Moroccan entrepreneur has been

The above table shows that enjoyment has no significant relationship to the intention to use ecommerce. Indeed, the pleasure and the enjoyment that can be felt by browsing the sites of online commerce in no way pushes the Moroccan consumer to think about using e-commerce. In addition, the age of the consumer has not proved any statistical link moderating this relationship.

Perceived security was introduced as a variable that negatively influences the intention of the Moroccan consumer to use e-commerce, however this relationship could not be proven. That said, trust is beginning to emerge and the Moroccan consumer, regardless of age and sex, is beginning to believe in the security of online transactions in terms of data encryption and payment security, or is assured by the option of payment on delivery.

VI. RESULTS OF THE QUALITATIVE STUDY DEDICATED TO THE MOROCCAN ENTREPRENEUR

A. Pre-analysis result: categorization / coding

According to Bardin (2003) "the coding corresponds to a transformation, made according to precise rules, of the raw data of the text". Based on an a priori coding based on the literature and the definition of the concepts, we present below the coding grid and the results relating to our second part of research concerning the study of the intentions of adoption of electronic commerce by the Moroccan entrepreneur.

well validated with these two sub-hypotheses, explicitly: the reputation and image of the brand and the quality of the product influencing the intention to adopt e-commerce. Indeed, the company that has a good reputation and guarantees a good quality of its products and / or services has no fear to adopt online sales in parallel of in-store sales or to specialize in Ecommerce. For the interviewed persons, the management of digital reputation is not negligible for the adoption decision-makers of this distribution mode, but the quality labels of the online sales sites are still unknown to the consumer and don’t represent a great decisive power for the entrepreneur. Secondly, the assumption that tangible resources have a positive influence on the intention to adopt ecommerce could only partially be validated since the sub-hypotheses that compose it have not all been validated. Only technological and organizational resources have proven their direct and positive effect on the intention of the Moroccan entrepreneur to adopt e-commerce. Indeed, the technological means represent the base of this activity and their presence is essential. Moreover, the more the company is organized in terms of procedures and employees, with leaders who anticipate new developments and are receptive to change, the more it will be stimulated to adopt e-commerce. In addition, the financial resources have proved their role of influence in terms of equity that

must own the company to create a site of online sales, to ensure its follow-up and its update. Nevertheless, the support of financial organizations is proving to be a discouraging factor in the adoption of ecommerce as these institutes do not cooperate easily with entrepreneurs and complicate financing and insurance procedures. However, the last category of tangible resources that represents government legislation and support has proven to be negatively related to the intent to adopt e-commerce, contrary to our original assumption. Indeed, the legal aspect concern online sales remains defective, represents gaps and many laws are silent that leaves the relay to the case law that suffers from luck of backgrounds about cybercrime. That said, the entrepreneur does not feel secure in legal terms that guarantees his rights as a cyber-entrepreneur.

Table 2. Qualitative results

				A	B	C	D	E	F	Average (E;F)	
Rubric	Category	Sub-category	Code	agreemen	disagreemen	Attitude intermediate	Attitude negative	Attitude positive	Average "Agreement" by category	Total average (between average "Agreement" and "Positive attitude")	validation
Intangible resources	Reputation and brand	Reputation and brand image	RESS_INTA 1	20	0	8	2	10	19,00	14,50	valid
		Digital reputation management	RESS_INTA 2	18	2						
	Product quality	Product quality	RESS_INTA 3	20	0	8	1	11	15,50	13,25	valid
		Quality labels	RESS_INTA 4	11	9						
Tangible resources	financial resources	financial resources	RESS_TANG 1	17	3	6	3	11	12,50	11,75	partially valid
		Financial organizations	RESS_TANG 2	8	12						
	technological resources	The technological infrastructure	RESS_TANG 3	20	0	0	0	20	15,67	17,83	valid
		The experience of the company	RESS_TANG 4	19	1						
		The substitution of traditional transactions for electronic	RESS_TANG 5	8	12						
	organizational resources	Number of employees in your	RESS_TANG 6	description of the sample		8	2	10	18,67	14,33	valid
		sales volume	RESS_TANG 7								
		number of branches in the	RESS_TANG 8								
		number of subsidiaries around	RESS_TANG 9								
		Anticipation of change	RESS_TANG 10	17	3						
		The receptive state of the leaders towards a new technological	RESS_TANG 11	19	1						
		Role of leaders in the company's e-engagement process	RESS_TANG 12	20	0						
	Legislation and government support	company support to connect to	RESS_TANG 13	13	7	5	11	4	11,00	7,50	invalid
		Participation in the company's eengagement process	RESS_TANG 14	14	6						
		laws and legal practices	RESS_TANG 15	6	14						
Staff resources	Training	Knowledge	RESS_PERS 1	15	5	6	3	11	17,50	14,25	valid
		Skill	RESS_PERS 2	17	3						
		Computer use	RESS_PERS 3	20	0						
		Project team	RESS_PERS 4	18	2						

Finally, the personal resources that are represented in the form of training of employees in E-commerce, have proved their positive influence on the intention of adoption. Indeed, the interviewees suggest that the specialty by training is necessary for the performance of online sales as well as the creation of higher education branches in E-commerce trades. In the meantime, staff must also be trained as the ecommerce adoption process progresses, especially for companies that sell in stores and have decided to introduce the online sale as a second distribution mode.

CONCLUSION

The proposed model was validated empirically from samples of 98 consumers and 20 companies respectively. Using the method modeling of structural equations for the first part of the consumer study, the model was able to explain about 54% of the variance of the consumer's intention to adopt e-commerce. Furthermore, with the analysis of the content applied to the second part of the conceptual model relating to the entrepreneur, more than 65% of the hypotheses were validated.

REFERENCES

[1] Bardin L.,op. cit.,p.125.

[2] Bharadwaj, A. 2000. A resource-based perspective on IT capability and firm performance: An empirical investigation. MIS Quart. 24(1) 169–196. [3]Chin, W.W. (1998)," Issues and Opinion on Structural Equation Modeling ", MIS Quarterly, vol°22, n°1, p. 7– 25.

[3] Fornell, C. et Larcker, D.F. (1981), "Evaluating Structural Equation Models with Unobservable Variables and Measurement Error ", Journal of Marketing Research, vol°48, p. 39 –50.

[4] Grandon, E. E. et Pearson, J. M. (2004), "Electronic Commerce Adoption: An Empirical Study of Small and Medium US Business", Information & Management, 42, 197 – 216.

[5] Hair, J.F., Anderson, R.E., Tatham, R.L. et Black, W.C. (1998), "Multivariate Data Analysis", 5th Edition, Upper Saddle River, NJ: Prentice Hall.

[6] Sosik, J. J., Kahai, S. S. et Piovoso, M. J. (2009), "Silver Bullet or Voodoo Statistics? ", Group & Organization Management, vol°34, n°1, p. 5 -36.

[7] Venkatesh, V., Morris, M.G., Davis, G.B. et Davis, F.D. (2003), " User Acceptance of Information Technology: Toward a Unified View ", MIS Quarterly, vol°27, n°3, p. 425-478.

[8] Wetzels, M., Odekerken-Schröder, G. et Van Oppen, C. (2009), " Using PLS path modeling for assessing hierarchical construct models: Guidelines and empirical illustration ", MIS Quarterly, vol°33, n°1, p. 177–195.

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