

## ENTREPRENEURSHIP INCUBATOR MODEL BASED ON EMPOWERMENT TO IMPROVE INDEPENDENCE GRADUATES OF THE FACULTY OF ECONOMICS SEBELAS MARET UNIVERSITY INDONESIA

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### **ABSTRACT**

**T**his study aims to develop a model of entrepreneurial incubator for students in entrepreneurship learning in college. The model is structured as follows: doing, empowering, facilitating, and evaluating. In this study, the following steps have been taken: (1) Analysis of the problem, designing model instruments and questionnaires and validation of the model, for example by measuring the goodness of fit, (2) test of the effectiveness of the model in a test phase. The model was first tested on 80 students in management courses. This model is considered effective because it can improve the entrepreneurial independence of students. The results of the confirmatory analysis (CFA) showed that each latent variable proved to be formed by the manifest of one dimension. The model is applied to have an impact on a positive trend in the increase of mental independence of entrepreneurial students, after receiving treatment incubator assistance.

**Keywords:** Incubator Model, Entrepreneurship, Independence, Graduate Economics

## 1. Introduction

The core problem of this research is why graduates of the Faculty of Economics, University of Sebelas Maret Surakarta, Indonesia has not been able to become entrepreneurial minded learners (students), self-expectation to see entrepreneurship as an option after graduation. Methods and learning strategies used are not really precise, so the orientation of the graduated as independent learners has not yet been achieved optimally.

An entrepreneurial spirit, able to serve as cultural character, can be achieved by education, training, and entrepreneurship development. Significant results from the effort of learning entrepreneurship are still missing. This is presumably due to a lack of effectiveness of entrepreneurship education in universities. One of the causes is that the "method/technique" in entrepreneurship education has not been able to develop independent learners. Therefore, it is very urgent to develop strategies able to teach learners the skills to be independent.

Methods are needed to address and realize the goal of independent-minded graduates, like the model of the entrepreneurship incubator. The term incubator has been widely used in various fields including education (Suranto, 2012). Based on research results of Suranto et al. (2012), it is known that the learning model of the entrepreneurial incubator can significantly influence the formation of an independent mind. A Learning model of entrepreneurship through incubators is carried out simultaneously to or can be integrated in entrepreneurship courses. The influence of incubator-based learning models for the formation of the mental skill of independence is found to be 0.811 or 81.1 per cent. The Provision with materials in the field of entrepreneurship through entrepreneurship incubator is capable of affecting mental improvement independence of graduate in the business education of the Computer Information Engineering program in the UIN Sunan Kalijaga Yogyakarta.

The results of previous research, a dissertation from Suranto (2012), gives the following conclusions: (a) the model of the entrepreneurship incubator is found to be effective for improving the skill of writing popular science books, (b) the development of the model is effective, because: (1) it is effectively used to increase the student's mind for entrepreneurial independence and has a positive impact based on trends towards increased entrepreneurial behavior among students, (2) it can be easily executed, (3) it meets internal reliability, construct reliability and the requirements of the confirmatory factor analysis, (c) the conclusions about mental independence, divided into two dimensions can be drawn as follows: (1) empowerment, as reflected by the technical ability to write at 94.58 per cent, (2) empowerment, as reflected by an entrepreneurial awareness by 54.23 per cent, (3) empowerment as reflected by the motivation of 89.81 per cent, (4) self-empowerment as reflected by the excess amount 80.35 per cent, (5) is reflected by the lack of self empowerment by 91.95 per cent, (6) access to empowerment is reflected by other parties of 75.50 per cent, (7) empowerment is reflected by the networking of 83.12 per cent, (8) the capital is not able to provide significant reflection towards empowerment, less influential in establishing independence mental effort of script writing popular science, these variables did not meet the validity requirements of the Confirmatory Factor Analysis (CFA) (9) professionalism is reflected by the confidence of 74.67 per cent, (10) professionalism is reflected by an independent amounted to 63.84 per cent, (11) professionalism reflected by the tenacious and determined at 59.78 per cent, (l2) is reflected by the unyielding professionalism of 46.25 per cent, (13) professionalism is reflected by an innovative creative writing at 69.04 per cent.

The Studies mentioned above focused on the entrepreneurial action of service business students in the form of training to write a book (of business services) and an observation period of five to six semesters after the course. This research explores the effects of a business incubator in a wider field of business, namely the marketing of products. Mental independence constructs like through empowerment were been proxied, because of the study's respondent students were only followed up for one single semester. This study is of great value, because: (a) many majors (programs of study) at the University of Sebelas Maret including subjects on the topic of entrepreneurship are too theoretic, because the students only visit businesses, (b) the study is considered to be a good model, which should be applied in all levels of study in order to teach the students the skill of entrepreneurship.

The background of the study is the following: (a) the unemployment rate for college graduates is higher than for high school graduates, (b) there is still a lecturer entrepreneurship course, do not understand entrepreneurship-based curriculum, (c) only few members of the labor force in Indonesia have the courage to open an independent business. Nominally, in 2009 around 48.9 million businessmen in Indonesia focusing mostly on small to medium sized businesses created around 85.4 million new workplaces (Moses Hubis, 2009: i), (d) graduates of higher education are not capable of self-employment, so there are more job-seekers than job-creators among the college graduates (Astamoen, 2005: 23), (e) entrepreneurship materials that can act as a bridge to make the learners to build mental entrepreneurship still do not exist (f) there has been no scientific research on entrepreneurship incubator in entrepreneurship courses through the sample at the Faculty of Economics, University of Sebelas Maret.

Based on the background described above, the problem can be formulated as follows : (a) should any existing components in the model Entrepreneurship Incubator (EI) based empowerment be done (B) whether the EI model development that could be developed improve the independence of helpless students in the Faculty of Economics, University of Sebelas Maret, (c) how the impact of the application of the model developed by the independence EI helpless behavior of students in the Faculty of Economics, University of Sebelas Maret. Based on the formulation of the problem described above, the purpose of this study is as follows: (a) find a model that can improve independence EI empowered learners, (b) determine whether the development of EI models increases the independence of the students at the Faculty of Economics, University of Sebelas Maret, (c) obtain predictions about the impact of behavioral tendencies of learners who are learning with the EI model.

## 2. Literature Review

### 2.1.Mental entrepreneurship

Mental effort is the entrepreneurial spirit and attitude of beginning a creative and innovative process. Innovative people are ideally confident, optimistic, full of commitment, initiative, energetic, result-oriented, forward-looking leadership, dared to be different, dare to take the risk of calculation, and ready to challenge. Doing business takes character and ethical entrepreneurship: (a) honesty, (b) integrity, (c) keep the promise, (d) loyalty, (e) fairness, (f) likes to help, (g) respect for others, (h) pursuit of excellence and responsibility, and (i) sportsmanship (Zimmerer, 1996).

Through ethical entrepreneurial venture is expected to be optimal, ethical business, so it has that entrepreneurial competencies: (a) knowledge, (b) skilled, (c) individual quality is adequate, the attitudes, motivations, values, and character, (d) managerial skills, conceptual skills, skills to understand and appreciate, communication and interaction (human skills), skills of the problem and the risk (decision making skills), skills set the time (time management skills), and other skills.

## **2.2. Characteristics of Entrepreneurs**

Entrepreneurs are people who have the ability to see and capture business opportunities, gather the resources needed to take advantage and take appropriate action to ensure success. A person can be considered as if he has the characteristics of self-employment (Puspitasari, 2007:9), (Eman Suherman, 2008:10), namely: (a) confidence, (b) task-oriented and results, (c) the taking of risks, (d) leadership, (e). originality, (f). future-oriented, (g) have the responsibility, (h) innovative, (i), active and creative, (i), strong leadership, and (j) does not give up.

The character or character inherent in an entrepreneur is (Suherman, 2008:11): (a). confidence, independence, individuality and optimism, (b). need for achievement, profit-oriented, perseverance and fortitude, determination, hard work, have a strong encouragement, energetic and initiative; (c). ability to take reasonable risks and like challenges, (d). behavior as leaders, along with others, responding to suggestions and criticism, (e). innovative and creative and flexible, and (f). forward-looking perspective.

## **2.3. Trigger factors Entrepreneurship**

McClelland (1961:207) and Qomarun (2000:11) argues that entrepreneurship is determined by several factors: achievement motives (achievement, optimism), value attitudes, and the status of entrepreneurship or success. Entrepreneurial behavior is influenced by internal and external factors. Internal factors such as property rights, competence, incentives, education, experience, commitment, vision, courage to take risks, and age. External factors include the environment, sociology, culture, custom, family, opportunities, models, competitors, investors, and government policy.

## **2.4. Life Skill Elements of Entrepreneurship**

Everyday life, people are always faced with life's problems that must be solved using a variety of means and situations that can be exploited. Ability like that is one of the core skills (life skills), meaning that skills are always needed by a person wherever he is, whether the status of the students, workers, teachers, merchants, and prospective employers. Sometimes life skills-based education in vocational education or equated with accupational. Life skills-based education is education that equipped on life skills, while vocational education is vocational education, that education in the Arm with life skills in vocational schools (Goodsell, 2005). Accupational is a special skill of a person without having a lesson, for example: welding, typing, repair service dynamo, etc. This expertise can be used as a profession, the profession produces satisfaction for him that he is living in its domain expertise, the person called by a professional (Suranto, 2009).

## **2.5. Research Framework**

Of the opinion and based on the study of theory, research on which to base the preparation of research paradigms. Research paradigm as a conceptual framework in the study of entrepreneurship incubator helpless "EI" developed, according to figure 1.

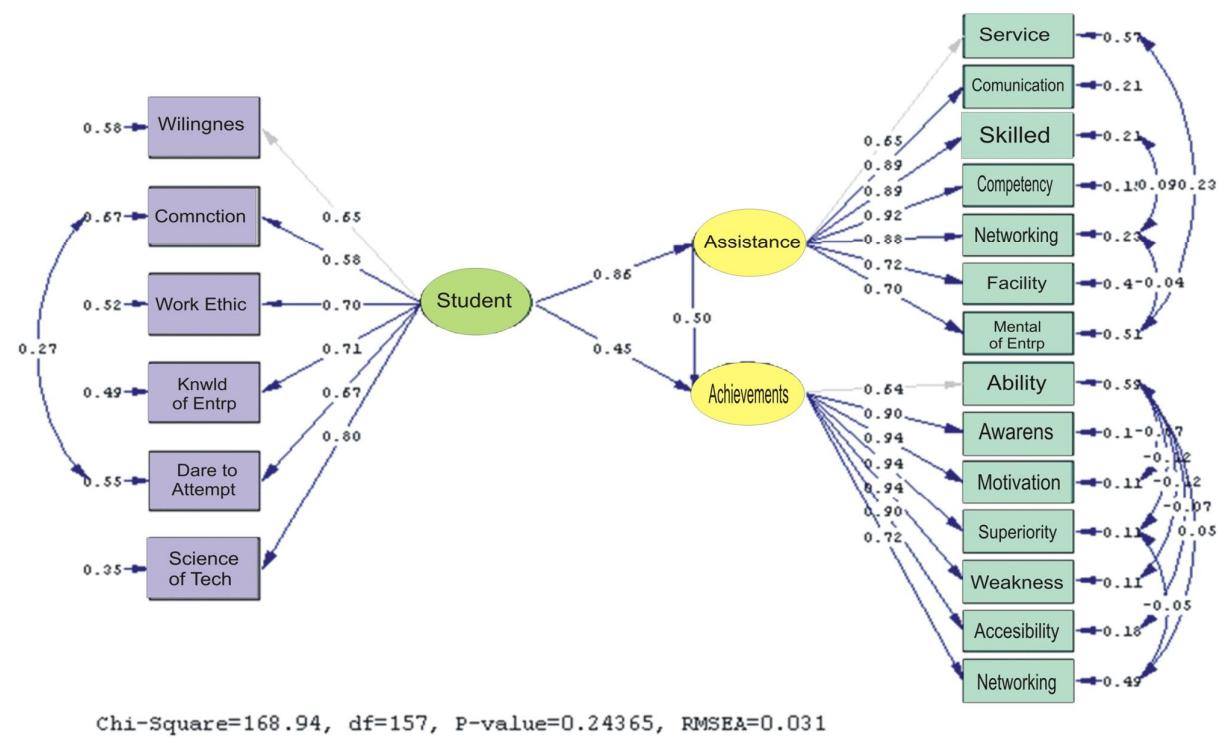


Figure 1. Entrepreneurship Incubator Model

Figure-1 can be explained variables and indicators as well as the relationships between variables. The variables of this study are as follows: (a) unmeasured variables (unobservable) are: entrepreneurial incubator, (b) variable measured (observable variables) are: the ability to beginning learners (initial conditions), empowerment (student outcomes).

Performance indicator variable success-ability learners are empowered: (a) technical skills, (b) awareness of entrepreneurship, (c) motivation, (d) identify excess self, (e) identify shortcomings, (f) the ability to access other hand, (g) the ability to do networking, and (h) capital. This study did not include professional variables on the grounds of the newly developed models in entrepreneurship courses with student respondents (not the small and medium entrepreneurs who are professionals). It is based on research conducted by Buang (2012) about the success of entrepreneurship education in Malaysia is only about 4-7% of the learners who are treated. Entrepreneurship education curriculum designers to make a statement that there are other factors that affect. One of them is an entrepreneurial attitude. These attitudes are psychological factors that still need to be measured. EI model is expected as an entrepreneurial model that can independence learners to be more empowered.

### 3. Research methods

Test models that included a study of quantitative research. According Sugiyono (2006:13) referred to quantitative research because the research data in the form of figures and statistical analysis using. Preparation of the observation (enclosed questionnaire) was conducted with a rating scale. In a scale model of rating scale, respondents will not answer any of the qualitative answers that have been provided, but the answer one quantitative answers that have been provided. Rating scale is therefore more flexible, because the instruments with a rating scale should be interpreted any number of alternative answers given on each item on the instrument. Interval answer the research instrument is 4,3,2,1, the number 4 means strongly agree, agree significant number 3, number 2 means disagree, and the number 1 means strongly disagree.

Data collection techniques in this study conducted by questionnaire, structured interviews, and observation. Observation is a data collection by going directly to the field or place an object of research. Questionnaire is a method of data collection by way of a question or inquiry. An interview is a data collection by conducting interviews with respondents who made the object of research.

## 4. Results

### 4.1. Results validation instrument

Model validation activities were conducted, once the analysis of the initial model is considered to have reached Goodness of Fit (GOF). Models are developed to explain how the entrepreneurship incubator involves three latent variables, namely: the initial conditions of learners (students), the mentoring of incubator, and performance results. Performance results are measured by latent power.

Manifest latent variable reflecting a composite score of some of the questions set appropriate indicators. The composed reliability for each latent variable was tested internally using Cronbach alpha, while the ability to reflect the latent variable was evaluated by Confirmatory Factor Analysis (CFA) and construct reliability. Data for model validation in order to perform goodness of fit measurement was taken from the 80 students taking the course of the entrepreneurship incubator.

### 4.2. Internal reliability

Question the ability to give meaning to all respondents produces consistent measurements. Consistency can be explained by the test results for internal reliability with the tool "Cronbach alpha". Reliability testing, the author uses Cronbach alpha, because: (1) the method used to calculate the reliability of a test does not have the right or wrong choice, or yes or no, (2) Cronbach alpha is a flexible instrument, that can be used for many kinds of tests (open and closed questionnaire ), (3) Cronbach alpha is used to model the form of questionnaire research instruments that have the characteristics of Likert scale data set and the amount of alpha 0,7. It cannot be used to test the reliability of the questionnaire with a nominal scale (true/false) (Saifudin Awar, 2000).

### 4.3. Descriptive analysis of results

Respondents' answers from the questionnaire is information that describes its response to several of the analyzed variables. In general if a respondent has a high score on average, his answers were positive, whereas low score on average is due to less positive responses. In accordance with the scale of the answers in the questionnaire, which is 1 to 4, the score is declared high when approaching or equal to 4, and expressed low when approaching or equal to 1, then the numbers are totaled and averaged score.

a. Condition Beginning Students. The average score for the initial conditions students is 3.5629, which falls in the upper part of the scale. Mean average scores are quite high, which means a great feedback for responders to initial conditions students. The score of the initial conditions, which all have about the same average score, which is in the range of  $\pm 3.4$  to 3.6. Referring to the previous explanation, this score describes positive responses from the students.

The results of the score as well as of the unity of each of the initial conditions are high, which could be interpreted in the way that the initial conditions of the participants (students), including willingness, communication, interaction, ethic attitude at work, entrepreneurship, courage and skill and technological mastery is maximal. When this condition is seen as initial capital to engage in the entrepreneurial world, the students can be considered as ready for entrepreneurship.

b. Mentoring Incubator, The characteristics of respondents to the implementation of a mentoring incubator and the score have almost the same results as the previous variable. Scores ranged from  $\pm 3.4$  to 3.6 which is high range. Overall the variable for mentoring incubator resulted at 3.55, revealing a high response. These results explain that the mentoring process itself as an object, which contains mentoring in service, communication, managerial skills, competencies, networking, facilities and mental effort is well adopted by learners. It can also not be denied, that participants can still respond better when the implementing of the mentoring can be improved.

c. Achievement Results. The variable measured to reveal the performance that results from concerning the mental independence of entrepreneurial incubator includes: technical skills, entrepreneurial awareness, motivation, effort, self advantages, shortcomings, access to the other party, and networking. The answers of the students after joining the entrepreneur incubator resulted in a score of 3.54, which is a high value on the scale between 1 and 4. So, the participants have a high level of empowerment.

d. Model. This research model is illustrated in figure 1. Capital variables were excluded because the latent power of independence is not reflected sufficient by the kind marketing business. Table 1 shows the parameters that indicate the model fit.

Table 1. The results of Goodness of Fit Index Model

No	Index	Cut of Value	Result	Decision
1	Kai Kuadrat (p)	small ( $p > 0.05$ )	168,94 (0.24365)	Ok
2	CFI	$\geq 0.90$ (max 1)	0.9931	Ok
3	GFI	$\geq 0.90$ (max 1)	0.8238	Moderate
4	AGFI	$\geq 0.90$ (max 1)	0.7644	Moderate
5	RMSEA	$\leq 0.08$ (Min 0)	0.031	Ok

Source: Results of testing SEM

According to table 1, there are three criteria of five of the model fit are met, so the next step was to calculate the structural test results, which is useful knowledge for the relationship between the variables in the model incubator.

There are two functions in the model incubator, the first function describes the effect of initial conditions on the participants (students) to the accompaniment incubator, the second function describes the effect of initial conditions for the participants (students) and mentoring incubator for performance results (table 2). The two functions also explain the influence of the initial conditions on participants (students) to indirect outcomes of the mentoring incubator.

Table 2. Result of structural test

Function	Endogen	Eksogen	$\Gamma$	B	t-count	sig*	R <sup>2</sup>
1	Incubator mentoring	Initial condition(student)	0.86		4,74	Sig	0.7396 $(\gamma)^2$
2	Result	Initial condition(student)	0.45		4,71	Sig	$0,45 ((\gamma)^2 + (B)^2)$
		Incubator mentoring		0.50	2,9	Sig	

Sources: result of SEM test, \* t-table ( $df = 157, \alpha = 5\% = 1.976$ ,  $t\text{-count} \geq 1.976 = \text{sig}$  and  $t\text{-count} < 1.976 = \text{not sig}$ )

Exogenous initial conditions for the learners (students) also influence the performance outcomes. Significance is marked by  $t\text{-count} > t\text{-table}$  for each exogenous variable (Table 2). The equations can be written in the impact form: The achievement of initial conditions result =  $0.86 + 0.5$  for the mentoring incubator. Together they contribute to the achievement of 45 per cent. This means that performance results of the empowerment of learners (students) can be explained by the model incubator. This contribution also shows that empowerment cannot be established only through an incubator, because this makes only about half of the achievement. So the bigger part must be explained by other variables or be formed with other courses (55 per cent).

#### **4.4. Results of implementation productivity model**

Structural testing results above demonstrate empirically that student achievement results can be explained the developed model incubator. The results of the study support the described previous, the success of mental self-improvement can be managed through engagement entrepreneurship incubator. Further evaluation is needed to determine the productivity of the model in helping the students to be successful entrepreneurs.

#### **4.5. Study of end product**

In this section, the researcher suggests things that distinguish the earlier model of entrepreneurial learning from other models, namely: (1) learners (students), (2) mentoring incubator, (3) learning materials, (4) learning method. This section also reveals that the model is aligned with the results of previous studies:

(a). The development of students with the model above can be seen as one way of managing empowerment in order to build the mental independence of students. Referring to the test results described above it can be concluded, that the initial conditions of participants (students) as the starting point to build self-reliance as the basis of the mental quality of mentoring. Analysis showed mentoring participants are affected by the initial conditions (student), but this does not mean that quality mentoring should not be added to the initial condition of participants (students), but it is an indication that the quality of mentoring needs to be adapted to the initial conditions of participants (students). The better the initial conditions of the participants (students) are, the better the quality of the assistance must be. Learners (students) contribute (reflection) to the mentoring incubator with = 0.86, the effect was calculated by the author as 73 per cent, which is quite substantial. This indicates that the remaining 27 per cent contribution will be divided by some other variables that could be developed. This is consistent with the results of Eman Suherman (2008) who found out that in order to foster the spirit of entrepreneurship in education the following factors must be considered: mental entrepreneurial skills of students, mentoring qualification, instructional design, and the appropriate mentoring model.

(b) Assistance incubator, mentoring contribute to the achievement of 0.5 or influence outcomes by 25 per cent, thus adding quality assistance in implementing empowerment as crucial. The more quality the mentoring has the better the performance results. Conformance quality of the model and incubator will assistance the students help to successfully achieve mental independence. Achievement results are essentially inherent in mentoring student participants and qualifications. The current state and the foreseeable future can be seen as two variables, given the development assistance the occurrence of the student. (c) Learning materials: This model focuses on character building competency at work, in order to improve the soft skills student. The incubation program is implemented to encourage students to think in a more independent way. This is consistent with research conducted by Riana Panggabean (2007) on the development of incubators. The incubator can provide skill enhancement for students. (d) Methods of learning: Methods of learning in an incubator model are applied to form and increase cognitive and psychomotor aspects in entrepreneurship, conducted by interactive participatory, PAIKEM GEMBROT, and integrated and layered in the incubation container. The method is able to produce more independent and productive graduates.

## 5. Conclusions

Based on the results of research and discussion that has been presented, the conclusion can be drawn as follows: (a) the developed model can be declared invalid pursuant to fit the model parameters, (b) the development model is effective, because: (1) can be used effective to improve the skills of entrepreneurial independence of the students , (2) can be easily executed, (3) it meets the requirements of internal reliability, construct reliability and the results of the confirmatory factor analysis are sufficient, (b) the model can improve the skill of independence among the learners, whereas each aspect has the power of a high determination coefficient. Variable capital is not valid latent variables referring to that are excluded from the model.

## 6. Limitations of Research

Limitations of this study include: (a) yet there is no textbook for the entrepreneurship incubator program and that program is still not appropriately structured in modules, (b) the empirical data to build the model design is limited (program lacks sufficient facilities, like: limited budgets to deliver a more competent companion incubators, etc., (c) the study is limited to formal education, (d) types of mental effort applied to build an entrepreneurial independence limited product sales, (e ) the limited number of companions helping to implement this experiment.

## 7. Utilization suggestions, Dissemination, and Product Development.

With regard to the results of field trials on learners, here are some suggestions that are used as consideration in developing a model of entrepreneurship.

### a. Utilization Advice Suggestions related to the application of the model:

- 1) For participants incubator, an increase in student mental independence is suggested entrepreneurial business type of the product.
- 2) For higher education institutions, research incubator is to be considered in conducting entrepreneurship development, particularly prospective entrepreneurs on campus.
- 3) Education policy makers (government), it is recommended that entrepreneurial incubator models can be used not only formal education, but can be tested on non-formal education, such as: counseling,

course organization, training, etc.

- 4) For the companion incubators, incubator companion advised every entrepreneur must have a qualified, proven competence as a companion incubator according to the model developed.
  
- b. Dissemination, Dissemination is done by way of socialization, through various techniques, namely:
  - 1) Training for companion incubator.
  - 2) Introduce incubator models in entrepreneurship courses in educational institutions.
  - 3) Enter incubator models in outreach programs, mentoring and entrepreneurial training.
  - 4) Through scientific journals and national and international seminars, as a form of introduction of products and inputs to entrepreneurship courses.
  
- c. More Product Development, Development of the model can be done by:
  - 1) Conducting the same study in another environment.
  - 2) Research development of the model developed in non-formal education.
  - 3) Conducting studies with more participants, more variables or different types of businesses.

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