### **Appendix A-1** - Cover letter to Panels of Academics



Dear sir/Madam

I am writing to you to seek your assistance in establishing the content validity of the questions that I intend to use as part of my research into the usage intention and use of IS-related innovation by entrepreneurs. We would like to invite you to be member of a panel of experts to provide comments on the measurement that will be used in this study and thus contribute greatly to the quality of this study.

This study attempts to explain the usage intention and use of IS-related innovation by entrepreneurs. We intent to investigate and understand why some entrepreneurs are using ISrelated innovation in an innovative way to run their business actively while other entrepreneurs do not. In this study, we define IS-related innovation as the new idea, practice, hardware software related to digital and communication technologies that is new by an individual or other unit of adoption (e.g., Mobile Commerce, Mobile Banking, Enterprise Resource Planning, On Line Banking Service, and Web2).

As part of the study, I am developing and pre-testing a number of instruments that will be used to gather data about all aspects of the research model. An important part of the pre-test process involves establishing content validity by assessing the correspondence between groups of items and the definitions of the variables intended to measure concepts central to the research model.

Attach to this letter are (10) sets of questions, each of which aims to measure a concept. For each sets would you please read the definition, the set of items, and then indicate on the scale of one-to-five your opinion on how well the set of items capture the concept. If you have any question or wish to discuss please e-mail me at moghavvemi2006@yahoo.com

I would be very grateful if you could return your feedback by 15; 2010.your participation and feedback are extremely important for my research and is greatly appreciated. Thank you

Your sincerely, Sedigheh Moghavvemi PHD candidate University of Malaya Tel No (03)- 22876545 E-mail: moghavvemi 2006@yahoo.com

## Appendix A-2 -Pre-test: Content Validity

#### Construct name: Performance Expectancy

**Construct definition**: The degree to which entrepreneurs' perceived that using IS-related innovation is useful in their activities and helps them to attain benefit in their business.

The following (5) questions are included to ascertain the degree to which entrepreneurs' perceived that using IS-related innovation is useful in their activities and helps them to attain benefit in their business. Respondent rate each item from 1 (strongly disagree) to 5 (strongly agree). Please read the items carefully, and then make your own rating on the scale below to indicate the extent to which the entire group of questions estimates "**Performance Expectancy**". I will also appreciate any specific comments you may wish to include in the space provided.

Respondent rate each item on a five-point Likert scale		Your evaluation as to how well the whole group of questions estimates "Performance Expectancy"	
	(1-strongly disagree to 5- strongly agree)	Weak strong estimated estimated	
1-	I find the IS-related innovation to be useful in my business.	15	
_		15	
2-	Using the IS-related innovations enable me to accomplish tasks more quickly.	15	
3-	Using IS-related innovation increase my productivity.	15	
4-	Using IS-related innovation, increase my	15	
	chances of getting more benefit in my business.	15	
5-	Using IS-related innovation gives me competitiveness in my business.	15	
6-	Using IT-related innovation increases differentiation in my product.		
7-	Using IT-related innovation decreases cost production.		
Co	omments:		

#### **Construct name:** Effort Expectancy

**Construct definition:** The degree to which entrepreneurs' perceived that using IS-related innovation takes less effort or easy to use.

The following (4) questions are included to ascertain the degree to which entrepreneurs' perceived that using IS-related innovation take less effort or easy to use. Respondent rate each item from 1 (strongly disagree) to 5 (strongly agree). Please read the items carefully, and then make your own rating on the scale below to indicate the extent to which the entire group of questions estimates "**Effort Expectancy**". I will also appreciate any specific comments you may wish to include in the space provided.

Re	espondent rate each item on a five-point Likert scale (1-strongly disagree to 5- strongly agree)	Your evaluation as to how well the whole group of questions estimates "Effort Expectancy" Weak strong estimated estimated
1.	My interaction with the IS-related innovation	15
	would be clear and understandable.	
2.	It would be easy for me to become skilful at using	15
	IS-related innovation in my business.	
3.	Learning to operate the IS-related innovation is	15
	easy for me.	15
4.	I would find the IS-related innovation easy to use.	
5.	I would find that working with IT-related	
	innovation is fun and enjoyable for me.	15
6.	Working with the IT-related innovation will be	15
	complicated and difficult to understand.	
Comm	ents:	1

#### Construct name: Social Influence

**Construct definition:** The degree to which entrepreneurs' perceived that important others believe he or she should use the IS-related innovation.

The following (4) questions are included to ascertain the degree to which entrepreneurs' perceived that important others believe he or she should use the IS-related innovation. Respondent rate each item from 1 (strongly disagree) to 5 (strongly agree). Please read the items carefully, and then make your own rating on the scale below to indicate the extent to which the entire group of questions estimates "**Social Influence**". I will also appreciate any specific comments you may wish to include in the space provided.

Re	espondent rate each item on a five-point Likert scale (1-strongly disagree to 5- strongly agree)	Your evaluation as to how well the whole group of questions estimates "Social Influence	
		Weak strong estimated estimated	
1.	People who influence my behaviour think that I	15	
	should use the IS-related innovation in my		
	business.	15	
2.	People who are important to me think that I should		
	use the IS-related innovation in my business.	15	
3.	The IS expert in the business has been helpful in	15	
	the use of the IS-related innovation in my business.	133333	
4.	In general, the whole organization has supported		
	the use of the IS-related innovation in my business.		
Comm	ents:		

#### **Construct name: Facilitating Conditions**

**Construct definition:** The degree to which entrepreneur's perceived that factors in the environment do support and facilitates the usage of IS-related innovation.

The following (5) questions are included to ascertain the degree to which entrepreneur's perceived that factors in the environment do support and facilitates the usage of IS-related innovation. Respondent rate each item from 1 (strongly disagree) to 5 (strongly agree). Please read the items carefully, and then make your own rating on the scale below to indicate the extent to which the entire group of questions estimates "**Facilitating Conditions**". I will also appreciate any specific comments you may wish to include in the space provided.

Re	spondent rate each item on a five-point Likert scale (1-strongly disagree to 5- strongly agree)	Your evaluation as to how well the whole group of questions estimates "Facilitating Condition " Weak strong estimated estimated
1-	I have resource necessary to use the IS-related innovation in my business.	15 15
2-	I have the knowledge necessary to use the IS-related innovation.	15
3-	There is external/internal support group available for assistance with IS-related innovation difficulties.	15
4-	New innovation is not compatible with other IS- related system I use in my business.	15
5-	There are special allocations (i.e. loan, intensive) for using IS-related innovation for entrepreneurs, from government.	
Comm	ents:	

Construct name: Perceived Desirability

**Construct definition:** The degree to which entrepreneur perceives the attraction towards use of IS-related innovation.

The following (7) questions are included to ascertain the degree to which entrepreneur perceives the attraction towards use of IS-related innovation. Respondent rate each item from 1 (strongly disagree) to 5 (strongly agree). Please read the items carefully, and then make your own rating on the scale below to indicate the extent to which the entire group of questions estimates "**Perceived Desirability**". I will also appreciate any specific comments you may wish to include in the space provided.

Resn	ondent rate each item on a five-point Likert scale	Your evaluation as to how well the whole group of questions estimates "Perceived Desirability"
		Weak strong
		estimated estimated
1-	Using IS-related innovation in my business is	15
	much more desirable for me.	
2-	I would enjoy the personal satisfaction of using	15
	IS-related innovation in my business.	
3-	Using IS-related innovation would increase	15
	quality of performance in my business.	15
4-	Using IS-related innovation in my business is an attractive idea.	15
5-	I am very enthusiastic to use IS-related innovation in my business.	15
6-	The success of my business lies in the use of IS-related innovation.	15
7-	Using IS-related innovation would result in a more relax working environment in my business.	
Comm	ents:	<u> </u>

#### **Construct name: Perceived Feasibility**

**Construct definition**: The degree to which entrepreneurs perceived that they are capable to use IS-related innovation.

The following (6) questions are included to ascertain the degree to which entrepreneurs perceived that they are capable to use IS-related innovation. Respondent rate each item from 1 (strongly disagree) to 5 (strongly agree). Please read the items carefully, and then make your own rating on the scale below to indicate the extent to which the entire group of questions estimates "**Perceived Feasibility**". I will also appreciate any specific comments you may wish to include in the space provided.

Respondent rate each item on a five-point Likert scale		Your evaluation as to how well the whole group of questions estimates "Perceived Feasibility"	
	(1-strongly disagree to 5- strongly agree)	Weak strong	
		estimated estimated	
1-	I am able to use the IS-related innovation even if	15	
	there is no one around to show me how to use it.		
2-	I would feel comfortable using IS-related	15	
	innovation in my business.		
3-	I have the skills and capabilities required to use	15	
	IS-related innovation.	15	
4-	I am confident I can put in the effort needed to use		
	new IS-related innovation in my business.	15	
5-	It would be very practical for me to use new IS-	15	
	related innovation in my business.		
6-	It would be very feasible for me to use IS-related		
	innovation in my business.		
Comm	ents:		

#### **Construct name: Intention to Use**

**Construct definition:** The degree to which entrepreneur's has formulated conscious plans to use or reject IS-related innovation to improve their business.

The following (5) questions are included to ascertain the degree to which entrepreneur's has formulated conscious plans to use or reject IS-related innovation to improve their business. Respondent rate each item from 1 (strongly disagree) to 5 (strongly agree). Please read the items carefully, and then make your own rating on the scale below to indicate the extent to which the entire group of questions estimates "Intention to Use". I will also appreciate any specific comments you may wish to include in the space provided.

Respondent rate each item on a five-point Likert scale (1-strongly disagree to 5- strongly agree)		Your evaluation as to how well the whole group of questions estimates "Behavioural Intention" Weak strong estimated estimated
1-	I predict I would use IS-related innovation, if it is available in the future.	15
2-	My personal philosophy is to do whatever it takes using IS-related innovation in the future.	15 15
3-	I have very seriously thought of using IS-related innovation in my business if it available, in next 6 months.	15
4-	I plan to use current IS-related innovation in my work in the 8 months.	15
5-	I intent to use similar IS-related innovation technology in the future.	

#### **Construct name: Propensity to Use**

**Construct definition**: the degree to which entrepreneurs perceived disposition to act on one's decisions, and it's reflect volitional aspects of intentions (I will use it).

The following (4) questions are included to ascertain the degree to which entrepreneurs perceived disposition to use IS-related innovation, and it's reflect volitional aspects of intentions (I will use it). Respondent rate each item from 1 (strongly disagree) to 5 (strongly agree). Please read the items carefully, and then make your own rating on the scale below to indicate the extent to which the entire group of questions estimates "**Propensity to use**". I will also appreciate any specific comments you may wish to include in the space provided.

Respondent rate each item on a five-point Likert scale	Your evaluation as to how well the whole group of questions estimates "Propensity to Use"	
(1-strongly disagree to 5- strongly agree)	Weak strong	
	estimated estimated	
<ol> <li>I will learn to operate IS-related innovation in my business.</li> </ol>	15	
2- I will use IS-related innovation to gain more opportunity in my business.	15	
	15	
3- I will use IS-related innovation because I cherish the feeling a useful service.	15	
4- I will use IS-related innovations that enable me to run my business successfully.		
Comments:		

#### **Construct name: Precipitating Events**

**Construct definition**: The degree to which entrepreneur's perceived that certain exogenous variable exists that facilitate or 'precipitate' the realization of intention in to behaviour.

The following (4) questions are included to ascertain the degree to which entrepreneur's perceived that certain exogenous variables exist that facilitate or 'precipitate' the realization of intention in to behaviour. Respondent rate each item from 1 (very negative) to 5 (very positive). Please read the items carefully, and then make your own rating on the scale below to indicate the extent to which the entire group of questions estimates "**Precipitating Event**". I will also appreciate any specific comments you may wish to include in the space provided.

Respondent rate each item on five point scale (1-very negative to 5- very positive)		Your evaluation as to how well the whole group of questions estimates "Precipitating Events" Weak strong estimated estimated
1- If you experience any changes in your work situation	How much have these changes	
(For example; being offered a big contract, declining	influenced your decision in	1235
profit, availability of financial resource, new investment, rising cost, new product).	using IS-related innovation?	
nsing cost, new product).	How much have these changes	
2- If you experience any change in your work	influenced your decision in	
environment (for example, government policy, financial	using IS-related innovation?	
crisis, customer or new market, supplier request, industry		
or market change, declining market share).		
3- If you decided to change your career prospect, due to recent opportunity or lack of opportunity(for example;	How much have these assessment influenced your	
competitive nature of environment, competitor threat or	decision in using IS-related	
<ul><li>action, strategic growth target, perception of increasing risk, attract new customer, international opportunities).</li><li>4- If you experience any technical change in your work</li></ul>	innovation?	12345
environment (for example, availability of IS-related innovation, technological change, new technology in accounting practice, availability of on line system).	How much has this technical expertise (internal/external) influenced your decision in using IS-related innovation?	12345
Comments:		

#### **Construct name: Usage Behaviour**

**Construct definition:** The degree to which entrepreneur uses IS-related innovation to conduct their business activities.

The following (4) questions are included to ascertain the degree to which entrepreneur uses IS-related innovation to conduct their business. In this study we consider three innovations that currently use in the market, (Mobile Commerce, electronic commerce, internet banking service) Respondent rates each item on hourly, daily use. The sets of question for use behaviour categorized in three sets. Please read the items carefully, and then make your own rating on the scale below to indicate the extent to which the entire group of questions estimates "Usage Behaviour". I will also appreciate any specific comments you may wish to include in the space provided.

Respond ,daily us	ent rate each item on hourly e	Measure on five point scale	Your evaluation as to he whole group of question "Use Behaviour" Weak estimated	
1-	On average, in an ordinary day how long do you use IS- related innovation (new purchase) in your business?	Respondent rate each item on hourly use.	1234	5
2-	On average, how frequently, do you normally use the IS- related innovation in your business?	Respondent rate each item on hourly use.	1234	5
3-	On average how much times do you spent on newly purchase IS-related innovation in your business in a day?	Respondent rate each item on daily use.	134	5
Comm	ents:			

## **Appendix A-3 - Cover Letter to Panel of Practitioners**



Dear sir/Madam

I am writing to you to seek your assistance in establishing the content validity of the questions that I intend to use as part of my research into the usage intention and use of IS-related innovation by entrepreneurs. We would like to invite you to be member of a panel of experts to provide comments on the measurement that will be used in this study and thus contribute greatly to the quality of this study.

This study attempts to explain the usage intention and use of IS-related innovation by entrepreneurs. We intent to investigate and understand why some entrepreneurs are using IS-related innovation in an innovative way to run their business actively while other entrepreneurs do not. In this study, we define IS-related innovation as the new idea, practice, hardware software related to digital and communication technologies that are new in your business (e.g., Mobile Commerce, Mobile Banking, Enterprise Resource Planning, On Line Banking Service, and Web2).

As part of the study, I am developing and pre-testing a number of instruments that will be used to gather data about all aspects of the research model. An important part of the pre-test process involves establishing content validity by assessing the correspondence between groups of items and the definitions of the variables intended to measure concepts central to the research model.

Attach to this letter are (10) sets of questions, each of which aims to measure a concept. For each sets would you please read the definition, the set of items, and then indicate on the scale of one-to-five your opinion on the ease of answerability and clarity of the set of questions. If you have any question or wish to discuss please e-mail me at <a href="mailto:moghavvemi2006@yahoo.com">moghavvemi2006@yahoo.com</a>. Your participation and feedback are extremely important for my research and is greatly appreciated. Thank you

Your sincerely, Sedigheh Moghavvemi PHD candidate University of Malaya Tel No (03)- 22876545 E-mail: moghavvemi\_2006@yahoo.com

# **Appendix A-4 -Pre-test: Face validity**

#### **Construct name:** Performance Expectancy

**Construct definition**: The degree to which entrepreneurs' perceived that using IS-related innovation is useful in their activities and helps them to attain benefit in their business.

The following (5) questions are included to ascertain the degree to which entrepreneurs' perceived that using IS-related innovation is useful in their activities and helps them to attain benefit in their business. Respondent rate each item from 1 (strongly disagree) to 5 (strongly agree). Please read the items carefully, and then make your own rating on the scale below to indicate the ease of answerability and clarity of the entire group of questions in relation to "**Performance Expectancy**". I will also appreciate any specific comments you may wish to include in the space provided.

Respondent rate each item on a five-point Likert scale (1-strongly disagree to 5- strongly agree)	Your evaluation as to how easily answerable is the entire group of questions in relation to "Performance Expectancy " Difficult to easy to complete complete
1- I find the IS-related innovation to be useful in my business.	1
2- Using the IS-related innovations enable me to accomplish tasks more quickly.	15 15
3- Using IS-related innovation increase my productivity.	15
4- Using IS-related innovation, increase my chances of getting more benefit in my business.	15
5- Using IS-related innovation gives me competitiveness in my business.	
Comments:	1

#### **Construct name:** Effort Expectancy

**Construct definition:** The degree to which entrepreneurs' perceived that using IS-related innovation takes less effort or easy to use.

The following (4) questions are included to ascertain the degree to which entrepreneurs' perceived that using IS-related innovation take less effort or easy to use. Respondent rate each item from 1 (strongly disagree) to 5 (strongly agree). Please read the items carefully, and then make your own rating on the scale below to indicate the ease of answerability and clarity of the entire group of questions in relation to "**Effort Expectancy**". I will also appreciate any specific comments you may wish to include in the space provided.

Respondent rate each item on a five-point Likert scale (1-strongly disagree to 5- strongly agree)	Your evaluation as to how easily entire group of questions in relat Expectancy" Difficult to complete	
1- My interaction with the IS-related innovation would	13-	5
be clear and understandable.		
	13-	5
2- It would be easy for me to become skilful at using IS-related innovation in my business.		
3- Learning to operate the IS-related innovation is easy for me.	13-	5
4- I would find the IS-related innovation easy to use.	13-	5
Comments:		

#### Construct name: Social Influence

**Construct definition:** The degree to which entrepreneurs' perceived that important others believe he or she should use the IS-related innovation.

The following (4) questions are included to ascertain the degree to which entrepreneurs' perceived that important others believe he or she should use the IS-related innovation. Respondent rate each item from 1 (strongly disagree) to 5 (strongly agree). Please read the items carefully, and then make your own rating on the scale below to indicate the ease of answerability and clarity of the entire group of questions in relation to "**Social Influence**". I will also appreciate any specific comments you may wish to include in the space provided.

Respondent rate each item on a five-point Likert scale (1-strongly disagree to 5- strongly agree)	Your evaluation as to how easily ans entire group of questions in relation Influence" Difficult to complete	
1- People who influence my behaviour think that I	13	5
<ul><li>should use the IS-related innovation in my business.</li><li>2- People who are important to me think that I should use the IS-related innovation in my business.</li></ul>	13	5
<ul><li>3- The IS expert in the business has been helpful in the use of the IS-related innovation in my business.</li><li>4- In general, the whole organization has supported the use of the IS-related innovation in my business.</li></ul>	13 123	
Comments:		

#### **Construct name: Facilitating Conditions**

**Construct definition:** The degree to which entrepreneur's perceived that factors in the environment do support and facilitates the usage of IS-related innovation.

The following (5) questions are included to ascertain the degree to which entrepreneur's perceived that factors in the environment do support and facilitates the usage of IS-related innovation. Respondent rate each item from 1 (strongly disagree) to 5 (strongly agree). Please read the items carefully, and then make your own rating on the scale below to indicate the ease of answerability and clarity of the entire group of questions in relation to "**Facilitating Conditions**". I will also appreciate any specific comments you may wish to include in the space provided.

Respondent rate each item on a five-point Likert scale (1-strongly disagree to 5- strongly agree)	Your evaluation as to how easily answerable is the entire group of questions in relation to "Facilitating Condition" <b>Difficult to</b> easy to
1- I have resource necessary to use the IS-related innovation in my business.	complete         complete           1235         15
<ul><li>2- I have the knowledge necessary to use the IS-related innovation.</li><li>3- There is external/internal support group available for assistance with IS-related innovation</li></ul>	15
<ul><li>4- New innovation is not compatible with other IS-related system I use in my business.</li></ul>	15
5- There are special allocations (i.e. loan, intensive) for using IS-related innovation for entrepreneurs, from government.	15
Comments:	

#### Construct name: Perceived Desirability

**Construct definition:** The degree to which entrepreneur perceives the attraction towards use of IS-related innovation.

The following (7) questions are included to ascertain the degree to which entrepreneur perceives the attraction towards use of IS-related innovation. Respondent rate each item from 1 (strongly disagree) to 5 (strongly agree). Please read the items carefully, and then make your own rating on the scale below to indicate the ease of answerability and clarity of the entire group of questions in relation to "**Perceived Desirability**". I will also appreciate any specific comments you may wish to include in the space provided.

Respondent rate each item on a five-point Likert scale (1-strongly disagree to 5- strongly agree)	Your evaluation as to how easily answerable is the entire group of questions in relation to "Perceived Desirability" Difficult to easy to complete complete
1- Using IS-related innovation in my business is much more desirable for me.	complete         complete           1235         15
2- I would enjoy the personal satisfaction of using IS-related innovation in my business.	15
3- Using IS-related innovation would increase quality of performance in my business.	15
4- Using IS-related innovation in my business is an attractive idea.	15
5- I am very enthusiastic to use IS-related innovation in my business.	15
6- The success of my business lies in the use of IS-related innovation.	15
7- Using IS-related innovation would result in a more relax working environment in my business.	15
Comments:	

#### **Construct name: Perceived Feasibility**

**Construct definition**: The degree to which entrepreneurs perceived that they are capable to use IS-related innovation.

The following (6) questions are included to ascertain the degree to which entrepreneurs perceived that they are capable to use IS-related innovation. Respondent rate each item from 1 (strongly disagree) to 5 (strongly agree). Please read the items carefully, and then make your own rating on the scale below to indicate the ease of answerability and clarity of the entire group of questions in relation to "**Perceived Feasibility**". I will also appreciate any specific comments you may wish to include in the space provided.

Respondent rate each item on a five-point Likert scale (1-strongly disagree to 5- strongly agree)	Your evaluation as to how easily answerable is the entire group of questions in relation to "Perceived Feasibility" Difficult to easy to complete complete
1- I am able to use the IS-related innovation even if	15
there is no one around to show me how to use it.	
2- I would feel comfortable using IS-related innovation in my business.	15
3- I have the skills and capabilities required to use IS-related innovation.	15
4- I am confident I can put in the effort needed to use new IS-related innovation in my business.	15
5- It would be very practical for me to use new IS- related innovation in my business.	15
6- It would be very feasible for me to use IS-related innovation in my business.	15
Comments:	I

#### **Construct name: Intention to Use**

**Construct definition:** The degree to which entrepreneur's has formulated conscious plans to use or reject IS-related innovation to improve their business.

The following (5) questions are included to ascertain the degree to which entrepreneur's has formulated conscious plans to use or reject IS-related innovation to improve their business. Respondent rate each item from 1 (strongly disagree) to 5 (strongly agree). Please read the items carefully, and then make your own rating on the scale below to indicate the ease of answerability and clarity of the entire group of questions in relation to "**Intention to Use**". I will also appreciate any specific comments you may wish to include in the space provided.

Respondent rate each item on a five-point Likert scale (1-strongly disagree to 5- strongly agree)	Your evaluation as to how easily answerable is the enti- group of questions in relation to "Behavioural Intention Difficult to easy to complete complete
1- I predict I would use IS-related innovation, if it is available in the future.	15
2- My personal philosophy is to do whatever it takes using IS-related innovation in the future.	15
	15
3- I have very seriously thought of using IS-related innovation in my business if it available, in next 6 months.	15
4- I plan to use current IS-related innovation in my work in the 8 months.	15
5- I intent to use similar IS-related innovation technology in the future.	

#### **Construct name: Propensity to Use**

**Construct definition**: the degree to which entrepreneurs perceived disposition to act on one's decisions, and it's reflect volitional aspects of intentions (I will use it).

The following (4) questions are included to ascertain the degree to which entrepreneurs perceived disposition to use IS-related innovation, and it's reflect volitional aspects of intentions (I will use it). Respondent rate each item from 1 (strongly disagree) to 5 (strongly agree). Please read the items carefully, and then make your own rating on the scale below to indicate the ease of answerability and clarity of the entire group of questions in relation to "**Propensity to use**". I will also appreciate any specific comments you may wish to include in the space provided.

Respondent rate each item on a five-point Likert scale (1-strongly disagree to 5- strongly agree)	Your evaluation as to how easily answerable is the entire group of questions in relation to "Propensity to Use" Difficult to easy to complete complete
<ul><li>1- I will learn to operate IS-related innovation in my business.</li><li>2- I will use IS-related innovation to gain more opportunity in my business.</li></ul>	15 15
3- I will use IS-related innovation because I cherish the feeling a useful service.	15 15
4- I will use IS-related innovations that enable me to run my business successfully.	
Comments:	

#### **Construct name: Precipitating Events**

**Construct definition**: The degree to which entrepreneur's perceived that certain exogenous variable exists that facilitate or 'precipitate' the realization of intention in to behaviour.

The following (4) questions are included to ascertain the degree to which entrepreneur's perceived that certain exogenous variables exist that facilitate or 'precipitate' the realization of intention in to behaviour. Respondent rate each item from 1 (very negative) to 5 (very positive). Please read the items carefully, and then make your own rating on the scale below to indicate the ease of answerability and clarity of the entire group of questions in relation to "**Precipitating Event**". I will also appreciate any specific comments you may wish to include in the space provided.

Respondent rate each item on five p (1-very negative to 5- very pos	Your evaluation as to how easily answerable is the entire group of questions in relation to "Precipitating Events" Difficult to easy to Complete complete	
1- If you experience any changes in your work situation (For example; being offered a big contract, declining profit, availability of financial resource, new investment, rising cost, new product).	How much have these changes influenced your decision in using IS-related innovation?	12345
2- If you experience any change in your work environment (for example, government policy, financial crisis, customer or new market, supplier request, industry or market change, declining market share).	How much have these changes influenced your decision in using IS-related innovation?	12345
3- If you decided to change your career prospect, due to recent opportunity or lack of opportunity(for example; competitive nature of environment, competitor threat or action, strategic growth target, perception of increasing risk, attract new customer, international opportunities).	How much have these assessment influenced your decision in using IS-related innovation?	12345
4- If you experience any technical change in your work environment (for example, availability of IS- related innovation, technological change, new technology in accounting practice, availability of on line system).	How much has this technical expertise (internal/external) influenced your decision in using IS-related innovation?	12345
Comments:		

#### **Construct name: Usage Behaviour**

**Construct definition:** The degree to which entrepreneur uses IS-related innovation to conduct their business activities.

The following (4) questions are included to ascertain the degree to which entrepreneur uses IS-related innovation to conduct their business. In this study we consider three innovations that currently use in the market, (Mobile Commerce, electronic commerce, internet banking service) Respondent rates each item on hourly, daily use. The sets of question for use behaviour categorized in three sets. Please read the items carefully, and then make your own rating on the scale below to indicate the ease of answerability and clarity of the entire group of questions in relation to "**Usage Behaviour**". I will also appreciate any specific comments you may wish to include in the space provided.

Respondent rate each item on hourly ,daily use	Measure on five point scale	Your evaluation a answerable is the questions in rel Behaviour" Difficult to complete	entire group of
1- On average, in an ordinary day how long do you use IS-related innovation (new purchase) in your business?	Respondent rate each item on hourly use.	123	
2- On average, how frequently, do you normally use the IS- related innovation in your business?	Respondent rate each item on hourly use.	123	35
3- On average how much times do you spent on newly purchase IS-related innovation in your business in a day?	Respondent rate each item on daily use.	12	35
Comments:			

# **Appendix A-5**

## Sample of Survey Instrument



## Entrepreneurship and IS Related Innovation Adoption and Usage

Dear respected respondent

I am a PhD. student in information system in University of Malaya and I am doing research in the area of innovation adoption by entrepreneurs, specifically, entrepreneurs that have intention to use IS-related innovation. Entrepreneur's based on our definition is a person who starts new business, integrate new idea in existing business, or market new invention.

We define IS-related innovation as the new idea, practice, hardware software related to digital and communication technologies that are new in your business (e.g., Mobile Commerce, Mobile Banking, Enterprise Resource Planning, On Line Banking Service, and Web2).

We would like to invite you to be a part of this research study by sharing your valuable experience and opinion about IS-related innovation usage in your business. This study will require ten to fifteen minutes of your time to complete a questionnaire with any additional comments you feel would be helpful.

All information will be treated with strictest confidentially and only the aggregate data will be analyzed for academic purposes only. Your active participation is greatly appreciated.

In making you ratings, please remember the following points

1- Please, answer each of the statement by ticking  $\Box$  alongside the number that best describe your answer.

2- Some of the question may appear to be similar, but they do address somewhat different issues. Please read each question carefully.

3- Be sure to answer all items-do not omit any.

4- Please, do not tick more than one number on a single scale.

Thank you very much for your time and cooperation. Yours sincerely,

S. Moghavvemi PHD candidate

If you have any enquiries please contact <a href="mailto:moghavvemi\_2006@yahoo.com">moghavvemi\_2006@yahoo.com</a>

Section A: In this section, please answer the following questions about <u>yourself</u>.

Please tick ( ) only one answer in each part as required.

1.Age range	□ 1- below 20	□ 2-21 to 30 □ 3-31 to 39
11130 10130	□ 4- 40 to 45	□ 5- 46 and greater
2.Gender	$\square$ 1- Male	□ 2- Female
3.Race	$\Box$ 1-Malay $\Box$ 2- Chinese	□ 3-Indian □ 4-others
4. Education	□ 1-Primary/Secondary school	□2-Diploma
	□3-Undergraduate	□4-Masters □5-PHD
5. Base on definition on the first page are you	□ 1-Entrepreneurs	□2-Non-Entrepreneurs
6- If you are	□ 1- starting new business	□2-Integrate new idea in existing business
entrepreneur in which of the following area you have contribution as an entrepreneurs?	□3- market new invention	
7.Type of industry	□ 1- Manufacturing	$\Box$ 2- service
8. Size of the company	□ 1-Small	□2- Medium □3-large
9.Number of employee under your command	□Less than 50 □:	50-100 □100-150 □more than 150
10. Revenue for years	□ RM200,000-250/000 □ RM1000/000-5000,000 □ RM10,00,000-25000,000	□RM250,000-1000,000 □RM5000,000-10,000,000
11. When did you	□1-3years	□ 3-6years □ 6-9years
establish the company?	$\Box$ 9-12years	$\Box$ more than 12 years
12. Are you the owner of the company?	□Yes	□ No
13. How long you start	1-3years	□3-6years □6-9years
using information technology?	9-12years	$\Box$ more than 12 years
14. Do you have any previous experience to use information technology?	□Yes	□ No
15-Educational background	TI	□ Non-IT
16-Did your parents ever start a business?	Yes	□No

The following questions rate from **1** (extremely disagree) to **7**(extremely agree). Please read the items carefully, and then make your own rating on the scale below by indicating your degree of agreements or disagreements with each statement by marking the appropriate box (IS-related innovation define as any new innovation that related to information system (IS), e.g., Mobile Commerce, Electronic Commerce, Web2, On Line Banking Service, Enterprise Resource Planning, New Hardware or software related to Information Technology, ...).

(1)	(2)	(3)	(4)	(5)	(6)	(7)
Extremely disagree	Quite disagree	Slightly disagree	Neither disagree nor	Slightly agree	Quite agree	Extremely agree
			agree			

No	Performance Expectancy	(1)	(2)	(3)	(4)	(5)	(6)	(7)
1	I find the IS-related innovation to be useful in my business.							
2	Using the IS-related innovations enable me to accomplish tasks more quickly.							
3	Using IS-related innovation increase my productivity.							
4	Using IS-related innovation, increase my chances of getting more benefit in my business.							
5	Using IS-related innovation gives me competitiveness power in my business.							

No	Effort Expectancy	(1)	(2)	(3)	(4)	(5)	(6)	(7)
6	My interaction with the IS-related innovation would be clear and understandable.							
7	It would be easy for me to become skilful at using IS- related innovation in my business.							
8	Learning to operate the IS-related innovation is easy for me.							
9	I would find the IS-related innovation easy to use.							

No	Facilitating Conditions	(1)	(2)	(3)	(4)	(5)	(6)	(7)
10	I have resource necessary to use the IS-related innovation in my business.							
11	I have the knowledge necessary to use the IS-related innovation.							
12	There is external/internal support group available for assistance with IS-related innovation difficulties.							
13	New innovation is not compatible with other IS-related system I use.							
14	There are special allocations (i.e. loan, intensive) for using IS-innovation for entrepreneurs, from government.							

No	Perceived Desirability	(1)	(2)	(3)	(4)	(5)	(6)	(7)
15	Using IS-related innovation in my business is much more desirable for me.							
16	I would enjoy the personal satisfaction of using IS-related innovation in my business.							
17	Using IS-related innovation would increase quality of work in my business.							
18	Using IS-related innovation in my business is an attractive idea.							
19	I am very enthusiastic to use IS-related innovation in my business.							
20	The success of my business lies in the use of IS-related innovation.							
21	Using IS-related innovation would result in a more relax working environment in my business.							

No	Perceived Feasibility	(1)	(2)	(3)	(4)	(5)	(6)	(7)
22	I am able to use the IS-related innovation even if there is no one around to show me how to use it.							
23	I would feel comfortable using IS-related innovation in my business.							
24	I have the skills and capabilities required to use IS-related innovation.							
25	I am confident I can put in the effort needed to use new IS-related innovation in my business.							
26	It would be very practical for me to use new IS-related innovation in my business.							
27	It would be very feasible for me to use IS-related innovation in my business.							

No	Social Influence		(2)	(3)	(4)	(5)	(6)	(7)
28	People who influence my behaviour think that I should use the IS-related innovation in my business.							
29	People who are important to me think that I should use the IS-related innovation in my business.							
30	The IT expert in the business has been helpful in the use of the IS-related innovation in my business.							
31	In general, the whole organization has supported the use of the IS-related innovation in my business.							

No	Propensity to Use	(1)	(2)	(3)	(4)	(5)	(6)	(7)
32	I will learn to operate IS-related innovation in my business.							
33	I will use IS-related innovation to achieve more opportunity in my business.							
34	I will use IS-related innovation because I cherish the feeling of a useful service.							
35	I will use IS-related innovations that enable me to run my business successfully.							

No	Intention To Use	(1)	(2)	(3)	(4)	(5)	(6)	(7)
36	I predict I would use IS-related innovation, if it is available in the future.							
37	My personal philosophy is to do whatever it takes using IS-related innovation in the future.							
38	I have very seriously thought of using IS-related innovation in my business if it available, in next 6 months.							
39	I plan to use current IS-related innovation in my work in the next 8 months.							
40	I intent to use similar IS-related innovation technology in the future.							

Please provide your general comment (if any) to the usage of IS in your company.

Please write your e-mail or phone number if you are interested to answer the second stage of data collection:

Thank you for your participation

# **Appendix A-6**

# Sample of Servey Instrument(Second Stage) Entrepreneurship and IS-Related Innovation Adoption and Usage

#### Second Stage Survey

Dear respected respondent

This questionnaire sends for you because you answer in the first stage of data collection and you mention that you have intention to use IS related innovation and you are interested to complete the questionnaire for the second stage of data collection. I am doing research in the area of IS innovation adoption by entrepreneurs, specifically, entrepreneurs that use IS-related innovation. For the purpose of this study IS-related innovation is defined as the new idea, practice, hardware software related to digital and communication technologies that are new in their business (e.g., Mobile Commerce, Mobile Banking, Enterprise Resource Planning, On Line Banking Service, and Web2).

We would like to invite you to be a part of this research study by sharing your valuable experience about IS-related innovation usage and precipitating events that happen in your business after you fill the first version of questionnaire. This study will require five minutes of your time to complete a questionnaire with any additional comments you feel would be helpful.

**Use of Information System:** please answer the following questions about use of <u>IS-</u> <u>related innovation in your business</u>. Please tick () only one answer in each part as required. (In this study we consider IS-related innovation as any new innovation that related to information system (IS), e.g., Mobile Commerce, Web2, on line banking service).

1- On average, in an ordinary day, <i>how long</i> do you use IS-related innovation (new Purchase) in your business?	<ul> <li>1) Not at all hour</li> <li>3) 1 to 2 hours</li> <li>5) 3 to 5 hours</li> </ul>	<ul> <li>2) 30 minute thru 1</li> <li>4) 2 to 3 hours</li> <li>6) more than 5hours</li> </ul>
2-On average, <i>how frequently</i> , do you normally use the IS- related innovation in your business?	<ul> <li>1) Not at all week</li> <li>3) about once a week</li> <li>5) 4or6 times a week</li> <li>7) more than once a comparent of the second s</li></ul>	$\Box$ 6) about once a day
3- On average, how much time do you spend on newly purchased IS-related innovation in your business, in a day?	<ul> <li>1) Not at all</li> <li>3) 1 hour to 2 hours</li> <li>5) 3hour to 5 hours</li> </ul>	<ul> <li>2) 30 minute to 1 hour</li> <li>4) 2 hour to 3hour</li> <li>6) more than 5hours</li> </ul>

The following questions rate from 1 (extremely disagree) to 7 (extremely agree).

Please read the items carefully, and then make your own rating on the scale below by indicating your degree of agreements or disagreements with each statement by marking the appropriate box (**IS-related innovation** define as any new innovation that related to information system (IS), e.g., Mobile Commerce, electronic commerce, on line banking service).

	(1) extremely nimportant	(2) Quite unimportant	nor important		ntly	(6) Quite important			(7) Extremely important			
No		Preci	pitating Even	its		(1)	(2)	(3)	(4)	(5)	(6)	(7)
1	example; availability product), h	perience any c being offered of financial reso tow much have to related innovati	profit, t, new									
2	If you experience any change in your work environment (for example, government policy, financial crisis, customer or new market, supplier request, industry or market change, declining market share), how much have these changes influenced your decision in using IS-related innovation?											
3	If you decided to change your career prospect, due to recent opportunity or lack of opportunity(for example; competitive nature of environment, competitor threat or action, strategic growth target, perception of increasing risk, attract new customer, international opportunities), how much have these assessments influenced your decision in using Is-related innovation?											
4	(for examp new techno system), ho	ole, availability o ology in accounti	f IS innovation, t ng practice, avai ese changes influ	cal change in your work environment IS innovation, technological change, g practice, availability of on line se changes influenced your decision								

Please provide your general comment (if any) to the usage of IS-related innovation in

your company.

# Thank you for your participation

## Appendix A-7 - The list of Some Conferences for Data Collection

SME Enterprise Software Technology and Business Solution (Sestech 2010). 21<sup>st</sup> International Invention innovation and Technology Exhibition (ITEX 2010) SME solution EXPO 2010 METALTECH 2010 BizSpark Technopreneur open day/ Malaysia Entrepreneurs (<u>MAD Incubator</u>) <u>International Halal Conferences and Exhibitions 2010</u> Sembang Sembang: casual conversation by women entrepreneurs on entrepreneurship Asia's largest web & technology conference in Malaysia 2010 Entrepreneurial Leadership strategies (SIME DARBY) Technology business innovation forum

Brands Entrepreneurs Conference 2010- Global Malaysian Brands towards the Next Decade SOFTEC 2010 Malaysia



**Appendix B-1:** Testing for Outliers



















Appendix 1	<b>B-3:</b>	Reliability	Analysis
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Items	Corrected Item-Total Correlation	Squared Multiple Correlation	Alpha if Item Deleted
Performance expectancy			
PE1	.869	.784	.927
PE2	.885	.800	.924
PE3	.865	.799	.928
PE4	.803	.723	.939
PE5	.818	.718	.937
	.010	./18	.957
Effort Expectancy	700	<b>C11</b>	012
EF1	.798	.644	.913
EF2	.839	.720	.900
Ef3	.848	.739	.896
Ef4	.825	.689	.904
Social Influence			
SI1	.752	.571	.909
SI2	.839	.711	.879
SI3	.849	.729	.875
SIJ SIJ	.795	.642	.895
Facilitating Conditions	.175	.042	.075
	.741	.606	.851
FC1 FC2			
FC2	.748	.631	.847
FC3	.783	.627	.839
FC4	.669	.463	.866
FC5	.642	.470	.873
Perceived Desirability			
PD1	.780	.632	.922
PD2	.829	.746	.918
PD3	.799	.733	.921
PD4	.837	.767	.917
PD5	.816	.698	.919
PD6	.721	.578	.929
PD7	.738	.583	.927
Perceived Feasibility			
PF1	.682	.519	.944
PF2	.831	.703	.926
PF3	.857	.759	.922
PF4	.852	.758	.923
PF5	.849	.812	.924
PF6	.840	.790	.925
110	.010		.,25
Intention To use			
IN1	.722	.554	.918
IN2	.795	.679	.904
IN3	.836	.714	.896
IN4	.828	.778	.897
IN5	.810	.763	.901
Use1	.708	.515	.803
Use2	.779	.606	.739
Use3	.691	.489	.821
Uses	.091	.409	.021
Propensity to use			
PTC1	.689	.505	.835
PTC2	.788	.640	.801
PTC3	.788		.812
		.611	
PTC4	.670	.463	.862
Precipitating Events			
PRE1	.715	.542	.863
PRE2	.814	.670	.825
PRE3	.780	.618	.838
PRE4	.682	.480	.875
	.302		

Items	Factor Loading	
Performance Expectancy1	.865	
Performance Expectancy2	.818	
Performance Expectancy 3	.825	
Performance Expectancy4	.810	
Performance Expectancy5	.643	
renormance Expectancy5	.070	
Effort Expectancy 1	.884	
Effort Expectancy 2	.840	
Effort Expectancy 3	.821	
Effort Expectancy 4	.869	
Enore Expectancy 4		
Social Influence1	.858	
Social Influence2	.813	
Social Influence3	.822	
Social Influence4	.882	
Social Influence I	.002	
Facilitating Condition1	.828	
Facilitating Condition2	.772	
Facilitating Condition3	.856	
Facilitating Condition4	.809	
Facilitating Condition5	.750	
8 - 1 - 1 - 1		
Perceived Desirability1	.862	
Perceived Desirability2	.819	
Perceived Desirability3	.667	
Perceived Desirability4	.738	
Perceived Desirability5	.851	
Perceived Desirability6	.783	
Perceived Desirability7	.649	
	425	
Perceived Feasibility1	.435	
Perceived Feasibility2	.643	
Perceived Feasibility3	.825	
Perceived Feasibility4	.460	
Perceived Feasibility5	.525	
Perceived Feasibility6	.535	
Behaviour intention1	.462	
Behaviour intention2	.644	
Behaviour intention3	.562	
Behaviour intention4	.646	
Behaviour intention5	.643	
Use behaviour1	.882	
Use behaviour2	.848	
Use behaviour3	.822	
Propensity to use 1	.525	
Propensity to use 2	.525	
Propensity to use 3	.574	
Propensity to use 4	.574	
Precipitating events 1	.551	
Precipitating events 2	.902	
Precipitating events 3	.896	
Precipitating events 5 Precipitating events 4	.890 .756	
r recipitating events 4	.750	

# **Appendix B-4:** Exploratory Factor Analysis

# Appendix C-1 - MODPROBE Result

# The Moderating Effect of Precipitating Events on Intention to use and Use Behaviour

Regression Summary

	R-sq .3674	F 62.9213		df2 325.0000	1-		0000				
	intention precipita	n ating	b 16.5431 .2501 .0633 0085	.0222	t 165.44 11.28 3.61 -2.54	340 .68	p .0000 .0000 .0003 .0114				
	Interact is defined as: Total intention X total precipitating events										
Varia tot -	ble calpre 5.7958 .0000	fect of F b .2993 .2501 .2009	se .0257 .0222	ictor at Va t 11.6681 11.2840 6.1268	p .0000 .0000	the Mode LLCI(b) .2489 .2065 .1364	ULCI(b) .3498 .2937				
-	na level 1 )5	used for	confidence	e intervals	5:						

# **Appendix C-2**

#### The Moderating Effect of Propensity to Use on Perceived Desirability

Run MATRIX procedure: SPSS Macro For Probing Interactions In OLS And Logistic Regression Outcome Variable total intention Focal Predictor Variable total perceived desirability Moderator Variable total propensity to use Regression Summary R-sq F df1 df2 р .6494 200.6540 3.0000 325.0000 .0000 329.0000 \_\_\_\_\_ bsetpconstant29.5906.1831161.6093.0000totalper.4016.04798.3849.0000totalpro.4543.04939.2196.0000interact-.0243.0078-3.1162.0020 Interact Is defined As: total perceived desirability X total propensity to use \_\_\_\_\_ Conditional Effect of Focal Predictor at Values of the Moderator Variable totalpro b se t p LLCI(b) ULCI(b) -4.1945 .5037 .0471 10.6835 .0000 .4110 .5965 totalpro LLCI(b) ULCI(b) .0000 .4016 .0479 8.3849 .0000 .3074 .4959 4.1945 .2996 .0672 4.4596 .0000 .1674 .4317 .4959 Alpha level used for confidence intervals: . 0.5 Moderator values are the sample mean and plus/minus one SD from mean The focal predictor and moderator were mean centered prior to analysis

# **Appendix C-3**

#### The Moderating Effect of Propensity to Use on Perceived Feasibility

Run MATRIX procedure: SPSS Macro For Probing Interactions In OLS And Logistic Regression Outcome Variable total intention Focal Predictor Variable total feasibility Moderator Variable total propensity to use Regression Summary df1 df2 R-sq F р .6805 230.7600 3.0000 325.0000 .0000 329.0000 \_\_\_\_\_ bsetpconstant29.5658.1680175.9603.0000totalfea.3908.033411.7134.0000totalpro.4550.044410.2373.0000interact-.0211.0061-3.4647.0006 Interact Is defined As: total feasibility X total propensity to use \_\_\_\_\_ Conditional Effect of Focal Predictor at Values of the Moderator Variable b totalprobsetpLLCI(b)ULCI(b)-4.1945.4791.040311.8989.0000.3999.5584.0000.3908.033411.7134.0000.3251.45644.1945.3024.04376.9280.0000.2165.3883 se p LLCI(b) ULCI(b) t totalpro Alpha level used for confidence intervals: .05 Moderator values are the sample mean and plus/minus one SD from mean The focal predictor and moderator were mean centered prior to

analysis

# Appendix C-3

List of Abbreviations

AVE	Average Variance Extracted
CFA	Confirmatory Factor Analysis
CMB	Common Method Variance
EPM	Entrepreneurial Potential Model
EEM	Entrepreneurial Potential Model
EFA	Exploratory Factor Analysis
IS	Information System
IT	Information Technology
IDT	Innovation Diffiusion Theory
MPCU	Model of Personal Computer Utilization
SCT	Social Cognetive Theory
SME	Small and Medium Sized Entrepresized
SEM	Structrual Equation Modeling
TRA	Theory of Reason Action
TPB	Theory of Planned Behavior
TAM	Technology Acceptance Behavior
UTAUT	Unified Theory of Acceptance and use of Technology