

## AN ALTERNATIVE TO METHODOLOGICAL INDIVIDUALISM: A NON-REDUCTIONIST APPROACH TO STUDYING TECHNOLOGY ADOPTION BY GROUPS

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### Appendix A

#### Experimental Task

Carefully read the following narrative and create a flowchart for it. Be sure to use appropriate symbols for creating the various components of a flowchart (e.g., activity, decision point, alternative paths, flow lines, start/stop points, and functional units). You may create the flowchart using either the drawing tool of MS Word or MS Visio.

IMAC, Inc. is a seller of MP3 players. Most of its business is conducted over the phone. This is how the company processes the shipment of its MP3 players to the customers:

1. When customers call in, their orders and credit card information are received by the customer service department.
2. Once the order is received, the order details and credit card information is sent to the Finance department for processing.
3. If the credit card authorization is *unsuccessful*, then the Finance department sends a “rejection” notification to the Customer Service department.
4. However, if the authorization is *successful*, then the Finance department sends the details of the order to the Fulfillment department, which then fills the order and ships it.
5. Upon receipt of the “rejection” notification from the Finance department (see Step 3), the Customer Service department resolves the issue, and then sends the details of the order to the Fulfillment department, which then fills the order and ships it.
6. If the order has a “priority” status, then it is shipped by overnight delivery, else it is shipped by regular delivery.
7. Once the order is shipped, the Fulfillment department sends a “Sent Order” notification back to the Customer Service department.
8. The Customer Service department then closes the order.

# Appendix B

## Relevant Measurement Items

Construct		Items
A Priori Attitudes		A1. Using the tool for creating a flowchart is a bad/good idea. A2. Using the tool for creating a flowchart is a foolish/wise idea. A3. I like/dislike the idea of using the tool for creating a flowchart (item was recoded). A4. Using the tool for creating a flowchart is unpleasant/pleasant.
Group Valence		GV1. To what extent does your group have a positive orientation toward the tool? GV2. To what extent does your group have a good feeling about the tool? GV3. To what extent does your group consider the tool acceptable for use? GV4. Indicate the extent of attractiveness of using the tool to your group?
Group's Perceptions about the Task–Technology Fit		TTF1. Did you find the tool appropriate for the flowcharting task that your group was performing? TTF2. Was the flowchart displayed in a readable and understandable format by the tool? TTF3. Was the flowchart presented in a readable and useful format by the tool? TTF4. Were the flowcharting symbols easily available within the tool? TTF5. Were there too many flowcharting symbols available within the tool making it hard to understand which one to use in creating your own flowchart?†
Group's Perceptions about the Complexity of the Technology		Comp1. To what extent was the tool difficult for your group to use? Comp2. To what extent are the features of the tool overly sophisticated?
Intra-group Conflict		C1. To what extent did you and the other party disagree over alternatives? C2. To what extent was the conflict you and the other party experienced directly related to the task? C3. To what extent did you and the other party debate over some of the alternatives? C4. To what extent did you and the other party advocate different points of view? C5. To what extent were the differences you and the other party experienced task-related? C6. To what extent did you and the other party disagree over alternative solutions proposed?
Group's Strength of adoption of the technology		GSA1. To what extent was your group convinced about using the above tool? GSA2. To what extent is your group committed to the use of the above tool? GSA3. To what extent does your group plan to regularly use the above tool?
Satisfaction	Solution Satisfaction	SAT1. To what extent do you feel personally responsible for the correctness of the group solution? SAT2. To what extent does the final solution reflect your inputs? SAT3. To what extent are you confident that the group solution is correct? SAT4. To what extent do you feel committed to the group's solution? SAT5. How satisfied or dissatisfied are you with the quality of your group's solution?
	Process Satisfaction	SAT6. How would you describe your group's problem-solving process? Confusing/Understandable (item was recoded) SAT7. How would you describe your group's problem-solving process? (efficient/inefficient) SAT8. How would you describe your group's problem-solving process? Coordinated/Uncoordinated SAT9. How would you describe your group's problem-solving process? Fair/Unfair SAT10. How would you describe your group's problem-solving process? Satisfying/Unsatisfying
Voluntariness		V1. The group's use of the flowcharting tool was voluntary.

†This item measuring task-technology fit had a loading less than .50 on its respective construct, and was thus dropped from the subsequent analysis.

## Appendix C

### TAM Measurement Instrument

Construct	Item
Perceived Ease of Use (PEOU)	<ul style="list-style-type: none"> <li>My interaction with MS Word/Visio is clear and understandable.</li> <li>Interacting with MS Word/Visio did not require too much of my mental effort.</li> <li>I find MS Word/Visio to be easy to use.</li> <li>I find it easy to get MS Word/Visio to do what I want it to do.</li> </ul>
Perceived Usefulness	<ul style="list-style-type: none"> <li>Using MS Word/Visio improved my performance in creating a flowchart.</li> <li>Using MS Word/Visio improved my productivity.</li> <li>Using MS Word/Visio enhanced my effectiveness in creating a flowchart.</li> <li>I find MS Word/Visio to be useful in creating a flowchart.</li> </ul>
Intention to Adopt/Use Technology	<ul style="list-style-type: none"> <li>Assuming I have access to MS Word/Visio, I intend to use it in the future.</li> <li>Given that I have access to MS Word/Visio, I predict that I will use it.</li> </ul>

## Appendix D

### Composite Reliabilities, Inter-Construct Correlations, and AVEs of the Constructs in the Aggregated TAM Model

	Construct	Composite Reliability	1	3	4	5
1	Perceived Ease of Use	.899	<b>.837</b>			
2	Perceived Usefulness	.974	.764	<b>.951</b>		
3	Intention to Use Technology	.971	.617	.604	<b>.972</b>	
4	Adoption of Technology by the Group	.796	.235	.230	.311	<b>.767</b>

## Appendix E

### Beta-Weights of the Constructs in Ranked-Order

Constructs	Beta Weights (Ranked)
Complexity of the technology	2.21
Task–technology fit	2.13
Group communication media (1 and 2)	11.1; 1.89
Majority opinion	.31
Expert opinion	.20
Leader's opinion	.10
<i>A priori</i> attitudes	.03
Intra-group conflict	.03