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UNIVERSITY OF PIRAEUS

CSAP17

A System Dynamics Model, to identify the impact of eWoM & Social Media in Tourism

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Presentation Structure

- **Introduction**

  We present the necessary principal requirements for Greek companies which operate on Tourism.

- **Technical Conditions**

  Determination of "**Tourism Leaflets & Brochures**", "**eWom**" and how "**Social Media**" has changed travel marketing.

  Display of how the combination of those two (eWoM & Social Media) can lead to the "**Theory of Planned Behavior - TPB**".

- **System Dynamics**

  We specify what is a "System", how we trace a "Problem", what is a "Dynamic Hypothesis" and "Formulation".

- **Model Presentation**

  Variables presentation and modulation, in order to trace the impact of "**eWom**" & "**Social Media**" in Tourism.

- **Conclusions**

  What are the benefits of Systemic way of thinking and how the procedure of modeling & simulation could help a company.

- **Questions**

1. Introduction

- **Strategic Plan (every 5 years)**
  - First of all, a company that operates on Greek Tourism **MUST** set a **VISION.**

    (Where do we want to go?)
- **Business Plan (every 2-3 years)**
  - Secondly, it **MUST** create a **BUSINESS Plan** which will forecast the methods/strategies that should be used to realize this VISION.

    (How do we get there?)

- **KPI's and SPI's**
  - Finally it **MUST** develop Key Performance Indicators (KPI) so as to study the progress and to proceed in corrective moves whenever it's necessary.

    (How do we measure success?)

1. Introduction

- **Business Scope**
  - Creation and retention of customers. (**Customer Satisfaction**)

- **Systemic Analyst Scope**

  A certified expertized scientist who:

  1) will trace the problems of your company
  2) will formulate this problem with **VenSim**/Anylogic
  3) will test and evaluate the model (simulation)
  4) will **provide you with the correct solution**

2. Technical Conditions

Tourist Leaflets & Brochures

A selection of illustrated guides and leaflets, but also tips and maps in order **to inform** a potential visitor for tourist attractions (museums, theaters, restaurants etc).

1) Can these affect tourist's behavioral intention to choose a specific destination?
2) Is it possible to influence Destination trust and intention to travel?

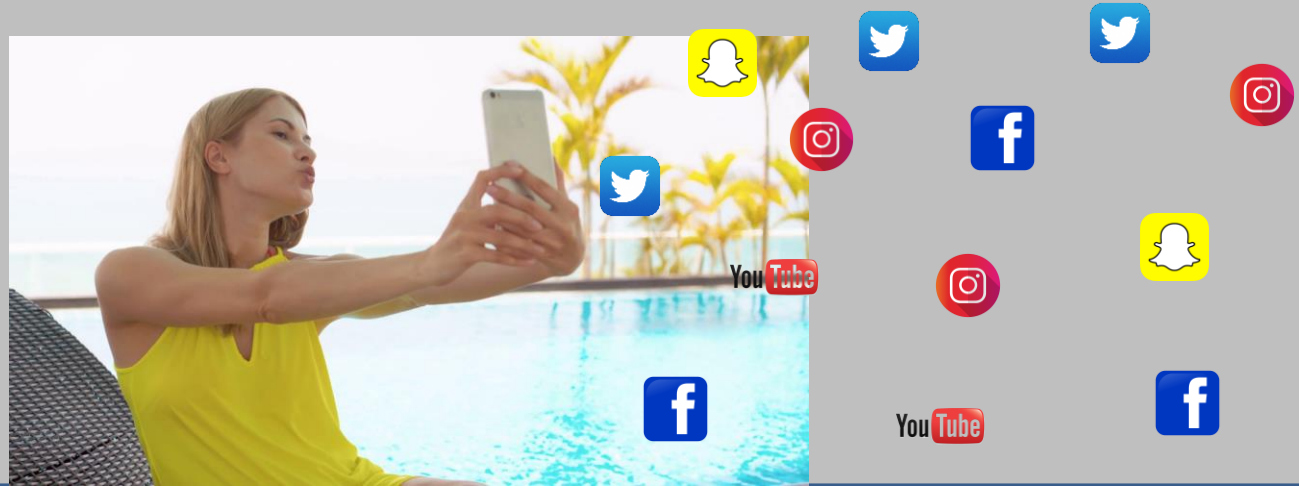
- **Lonely Planet Guides**
- **Time Out Guides**
- **Dorling Kindersley Travel Guides**
- **Rough Guides Greece**
- **Frommer's Travel Guide**
- **Insight Guides**
- **Blue Guides Greece**
- **Inside Out Guides**
- **Let's Go Guides**
- **EyeWitness Travel**

2. Technical Conditions

Electronic Word of Mouth (eWoM)

Studies by researchers (Chen and Xie, 2005, Bone, 1995) show that consumers tend to rely on other people's experiences and opinions in the decision-making process, and consequently when purchasing a high-end product or **service (Tourism)**.

- **75%** of consumers do not trust ads, and **92%** rely on friend and acquaintance recommendations.
- It is **4 times more likely** that a consumer will prefer a product suggested by a friend of his, instead of other products.
- **49%** of consumers reveal that they base their purchases on the proposals of the opinion leaders, while **40%** admit that they bought a product online as soon as they saw it being used by an influencer on social media.
- In the world of successful **e-WoM Marketing**, a satisfied customer will attract many new! Let's not forget that the public will always look for the most unbiased and reliable source of information.



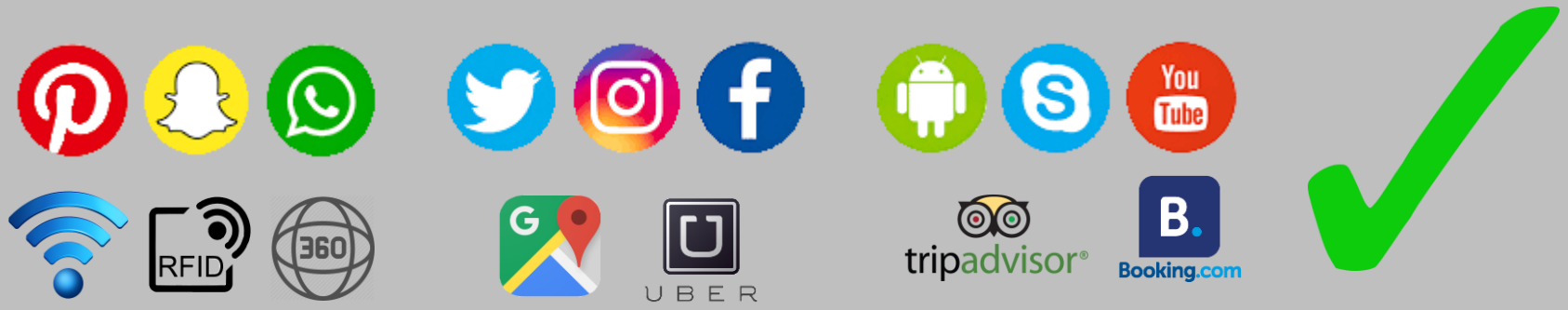
2. Technical Conditions

Internet and Social Media

Social media has fundamentally changed the way that many companies communicate and market their target demographics. **The rise of the Internet** and the **increased popularity of social channels** has altered **travel marketing**.

- Today's travelers **go online to search** their future travel destinations and accommodations.
- What **social media** has done is to facilitate and **expand people's ability to share travel experiences** with a wider audience than ever before.
- The vast majority of brands have a social media presence that is being used to become aware of and, when necessary, to **provide help to unsatisfied** or confused **customers**.
- The availability of information and ease of self-service booking have forced travel agencies to adapt from a brick-and-mortar model to a **more digital one**.
- More than **25% of millennials** that participate in loyalty programs are very likely to post about a brand in exchange for loyalty points.

2. Technical Conditions

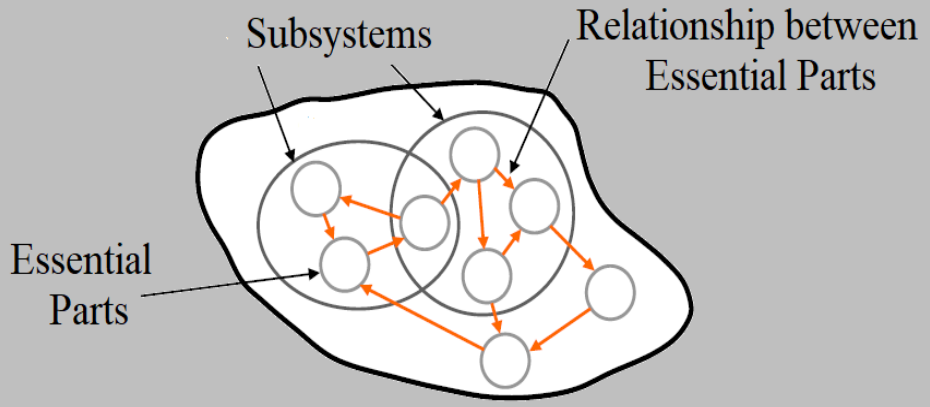


- Can this methods (Internet, Social Media & eWoM) manipulate human thinking processing order (**Theory of Planned Behavior - TPB**) in order to arouse the need of visiting a specific Tourism Attraction?

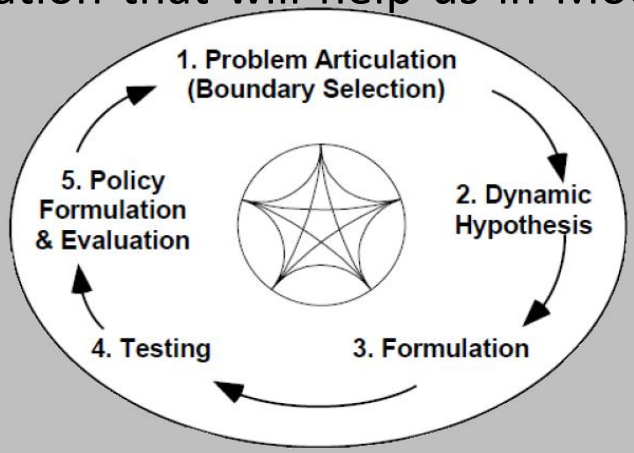
- What **is the real impact and how effective is** eWoM and Social Media in developing a Business Plan?

3. System Dynamics

- **System** is a single set, which has one or more **defining functions** and which consists of two or more **essential parts** fulfilling three basic rules (Russell Ackoff).



- **System Dynamics** is a **methodology** developed to understand the behavior of complex systems over time, and in particular any Feedback Loops that may exist.
- **Methodology** means a well-organized set of processes, techniques, tools, software and documentation that will help us in Modeling the System that we are studying.



4. Model Presentation

- The nature of problems in Technical Systems (Hard Systems) are more specific, in contrast to the problems found in Soft Systems, that's way there are three (3) different methods, for modeling development:

  1) **Systemic Dynamics Modeling** (**SD**)

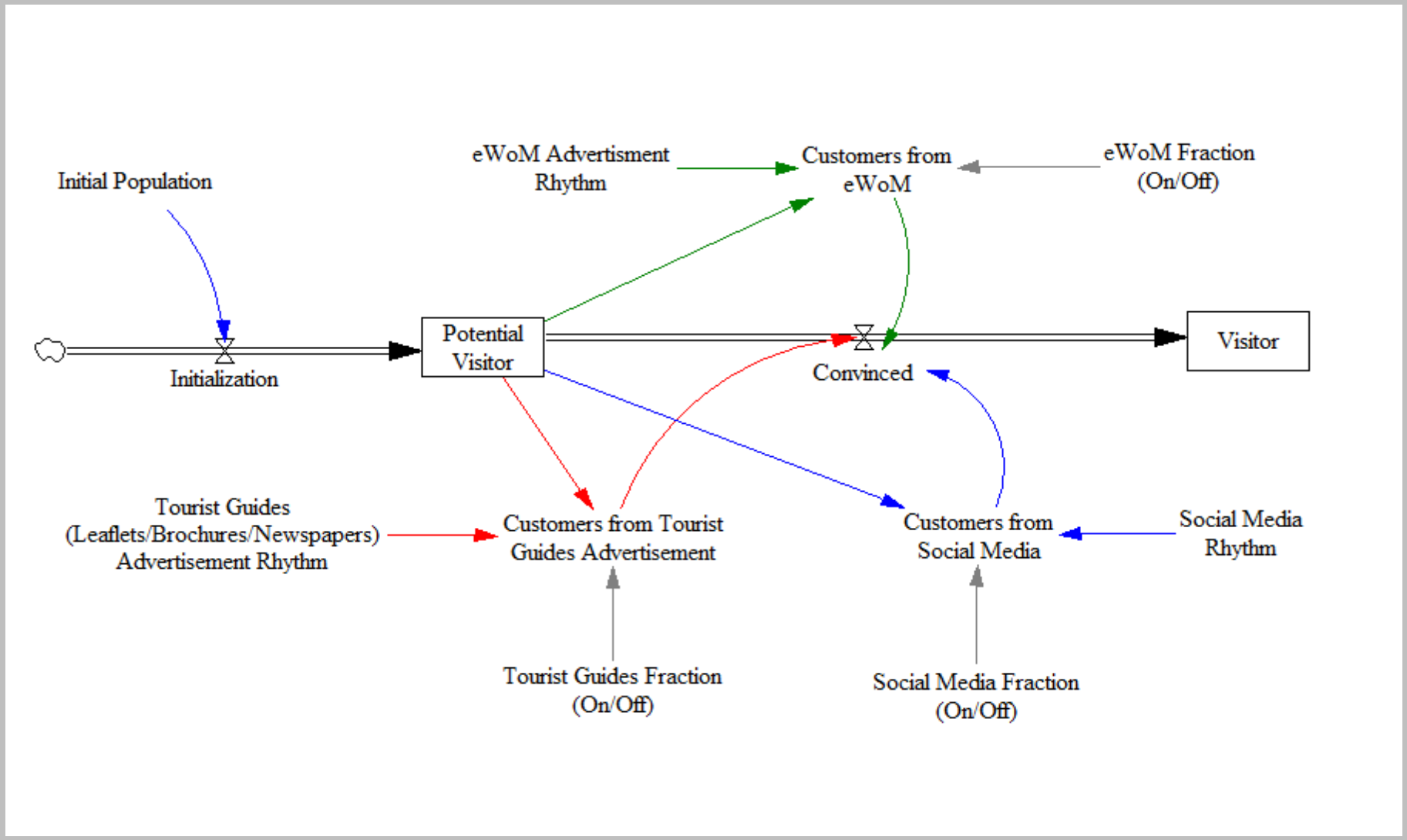
  2) Discrete Event Modeling (DE)

  3) Agent Based Modeling (AB)

- Our **Dynamic Hypothesis** is:

  If we can manipulate the decision making process of 25% of our Social Media & eWoM users, then there will be at about 25% to 30% reduction in the time it takes our company to be well known.

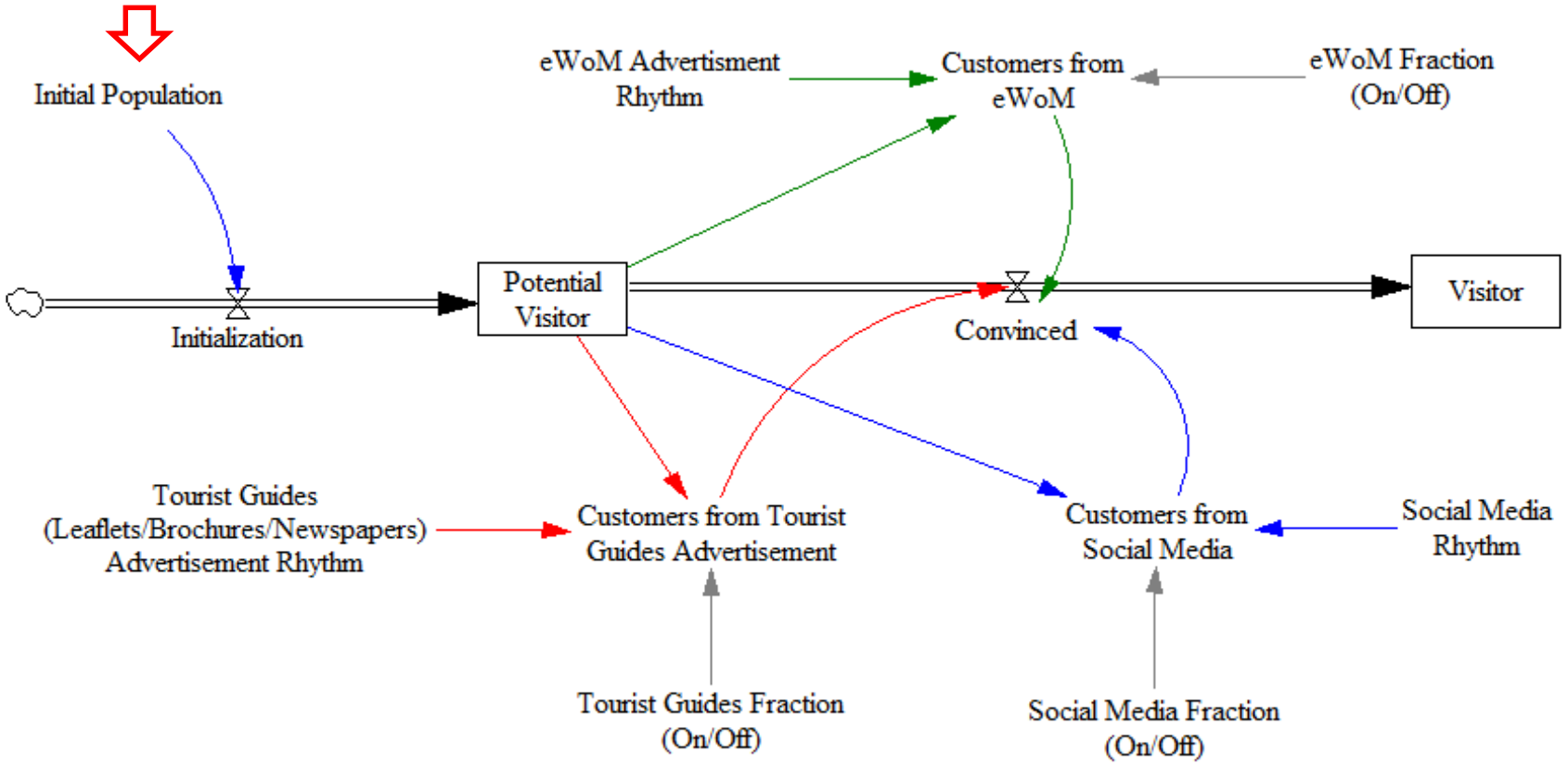
4. Model Presentation



4. Model Presentation

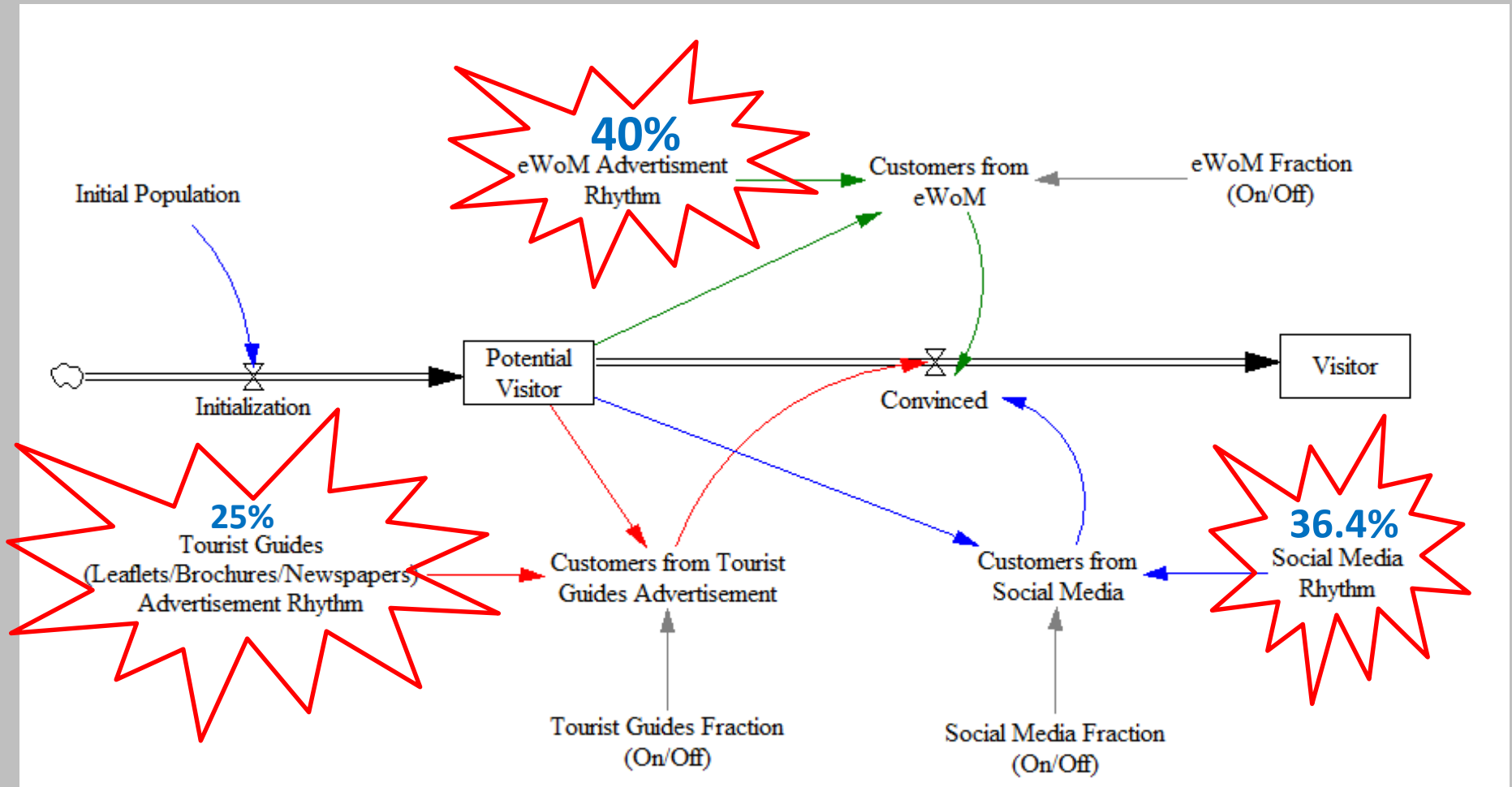
Variables

Value: 6.423.890 – 7.423.800
(Greek citizen between 20-65 years old)



4. Model Presentation

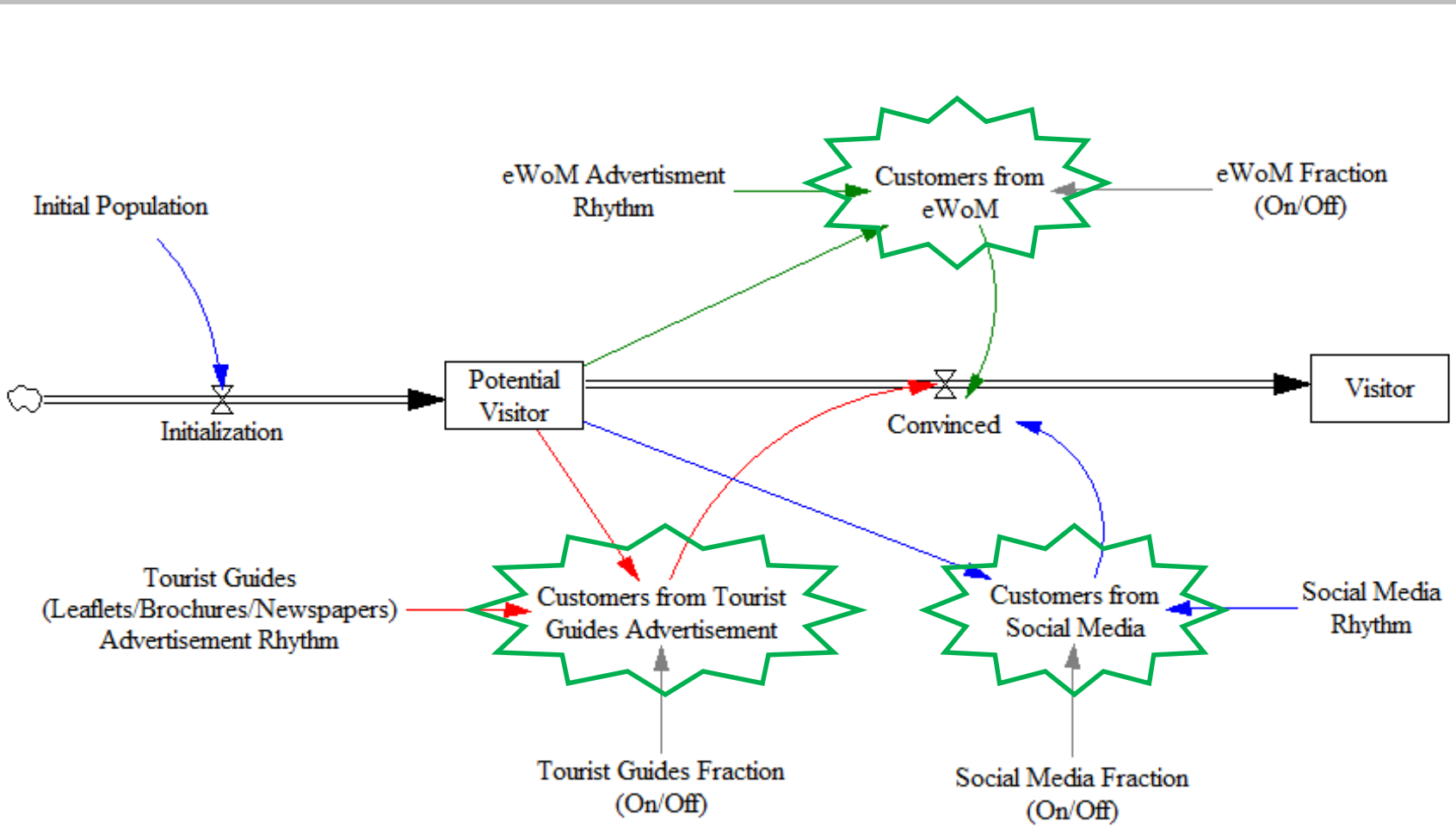
Variables



Value: Pulse Train combined with Random Uniform
(Indicates percentage of population who uses this kind of information)

4. Model Presentation

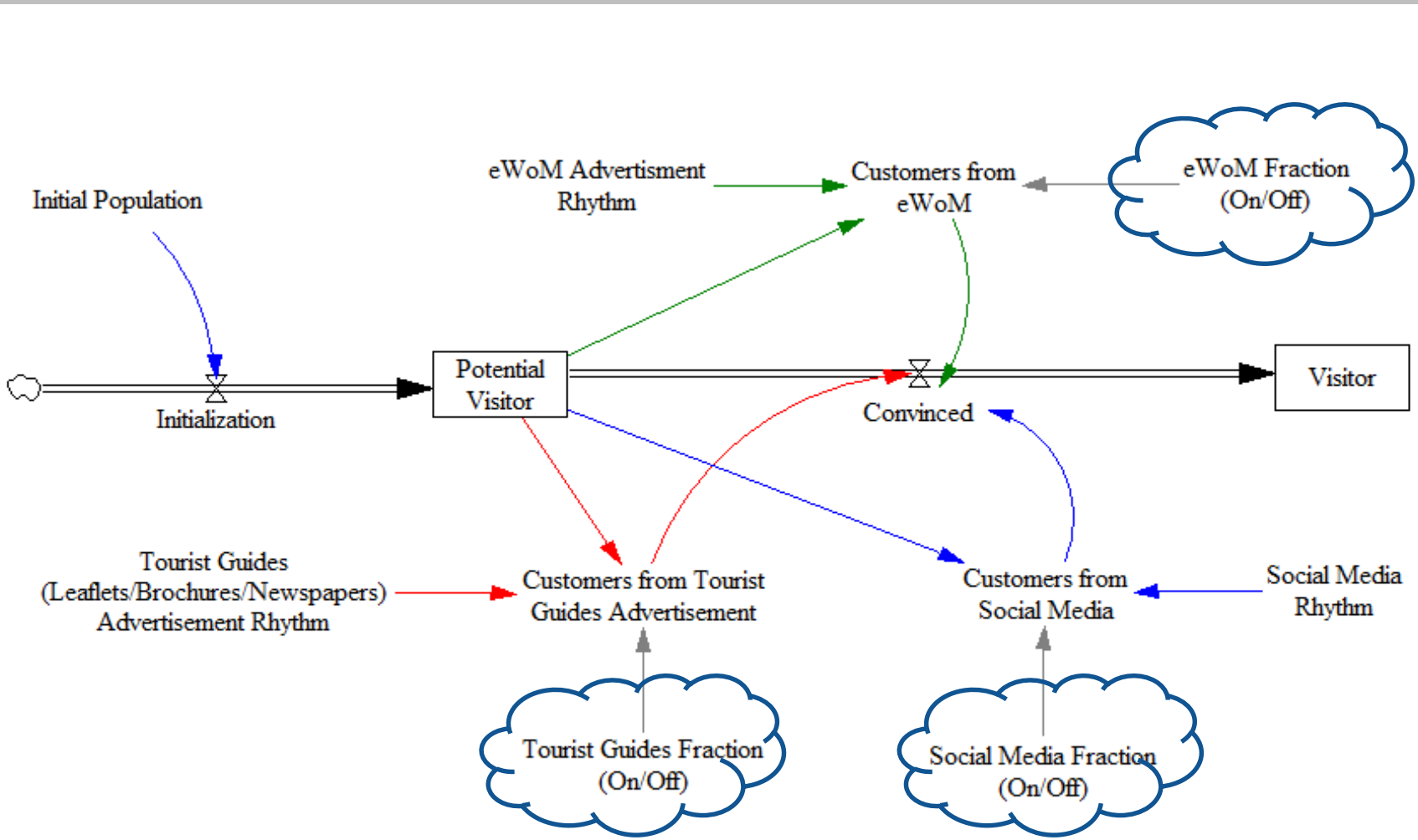
Variables



Value: Multiplication with 25%
(Indicates percentage of population who has really been manipulated)

4. Model Presentation

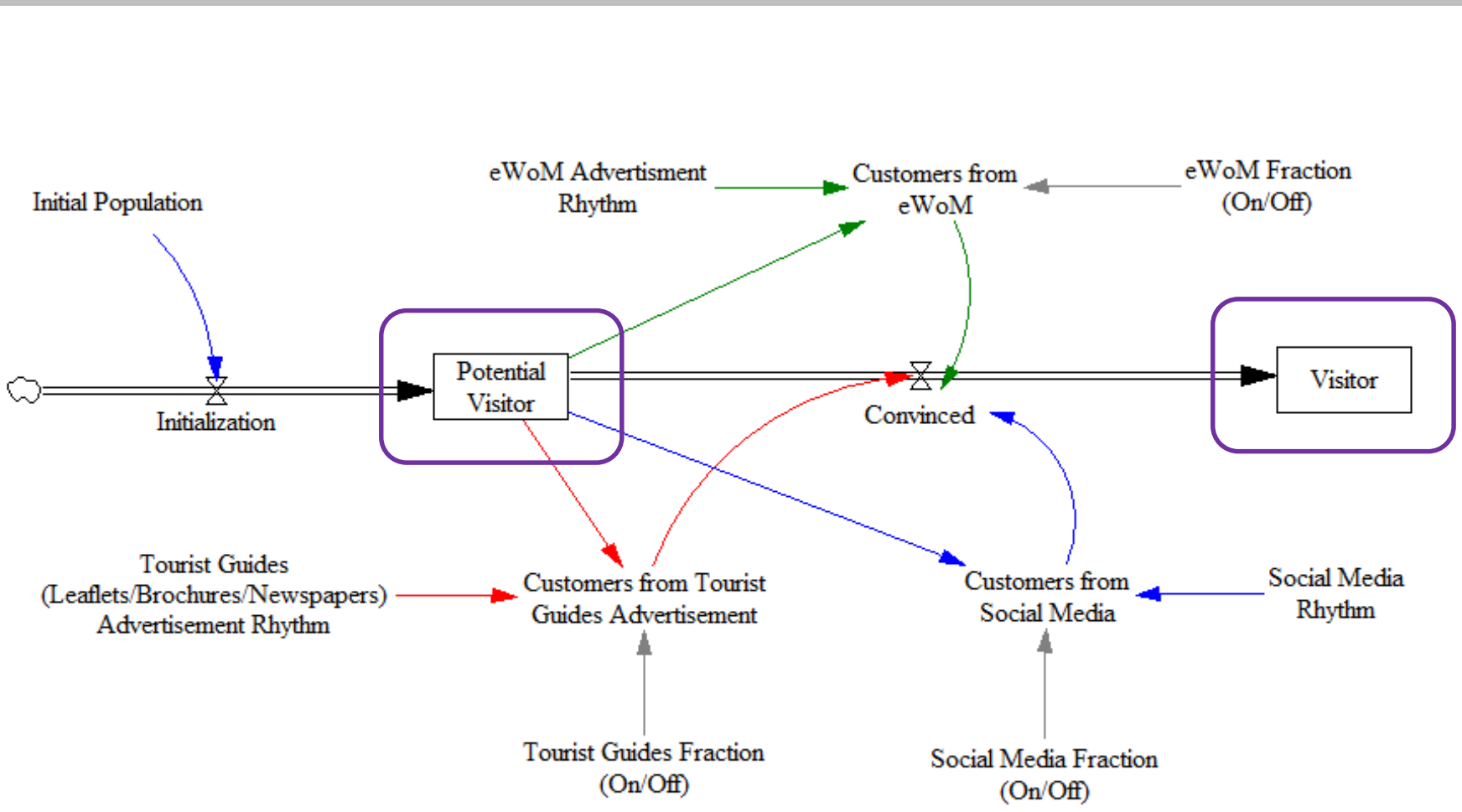
Variables



Value: 0-1
(On/Off switch)

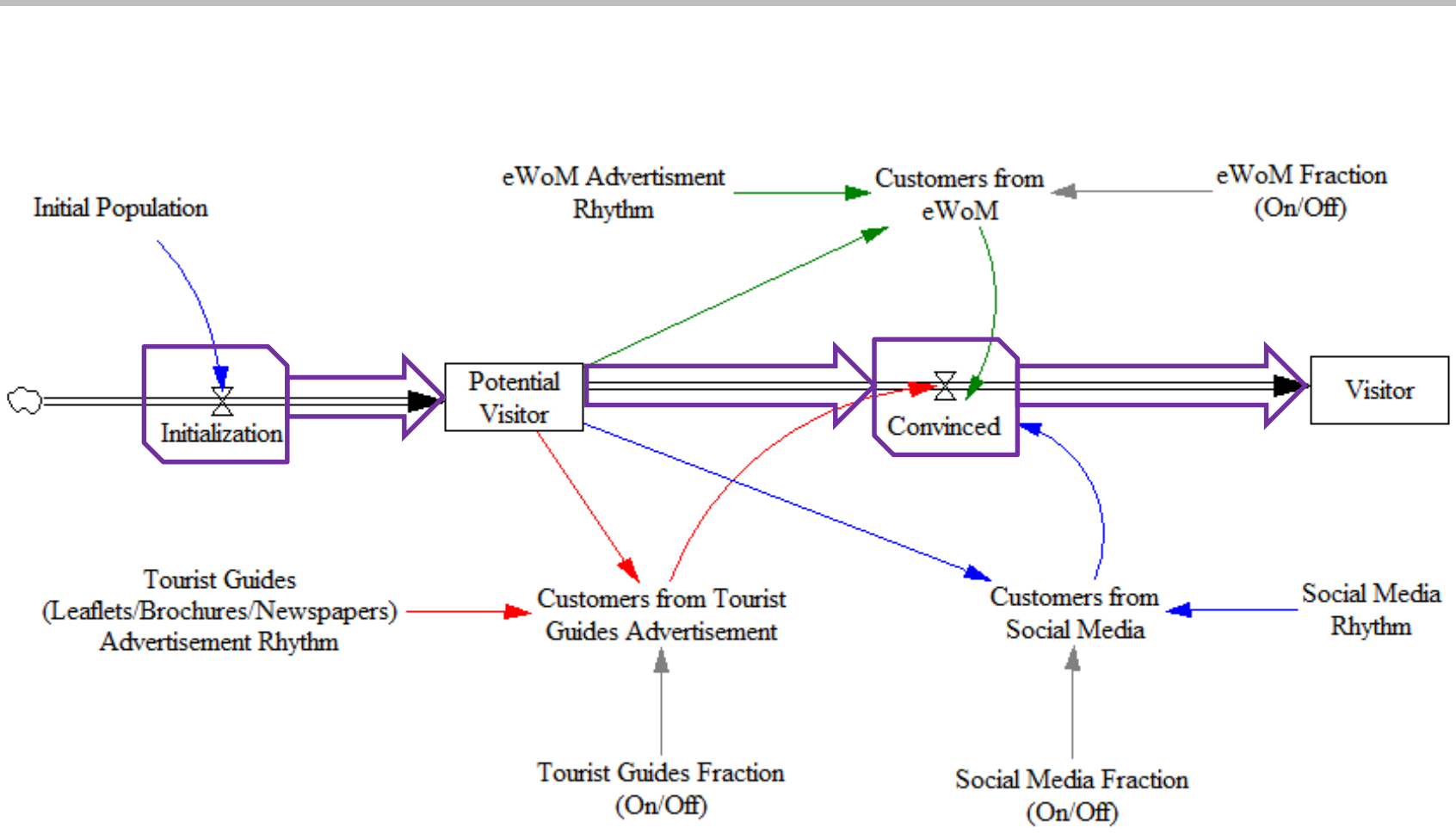
4. Model Presentation

Stocks



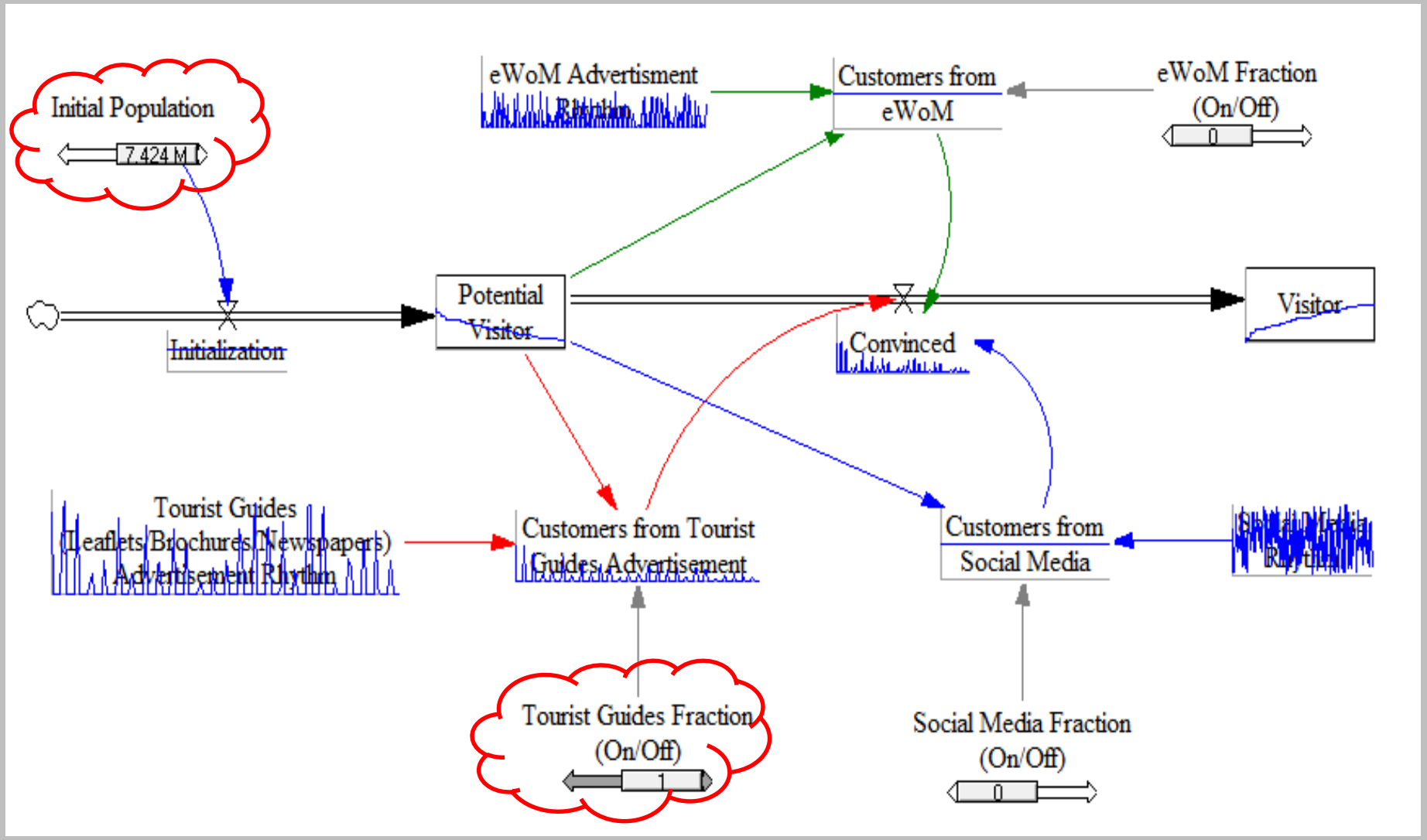
4. Model Presentation

Flows



4. Model Presentation

1st Simulation



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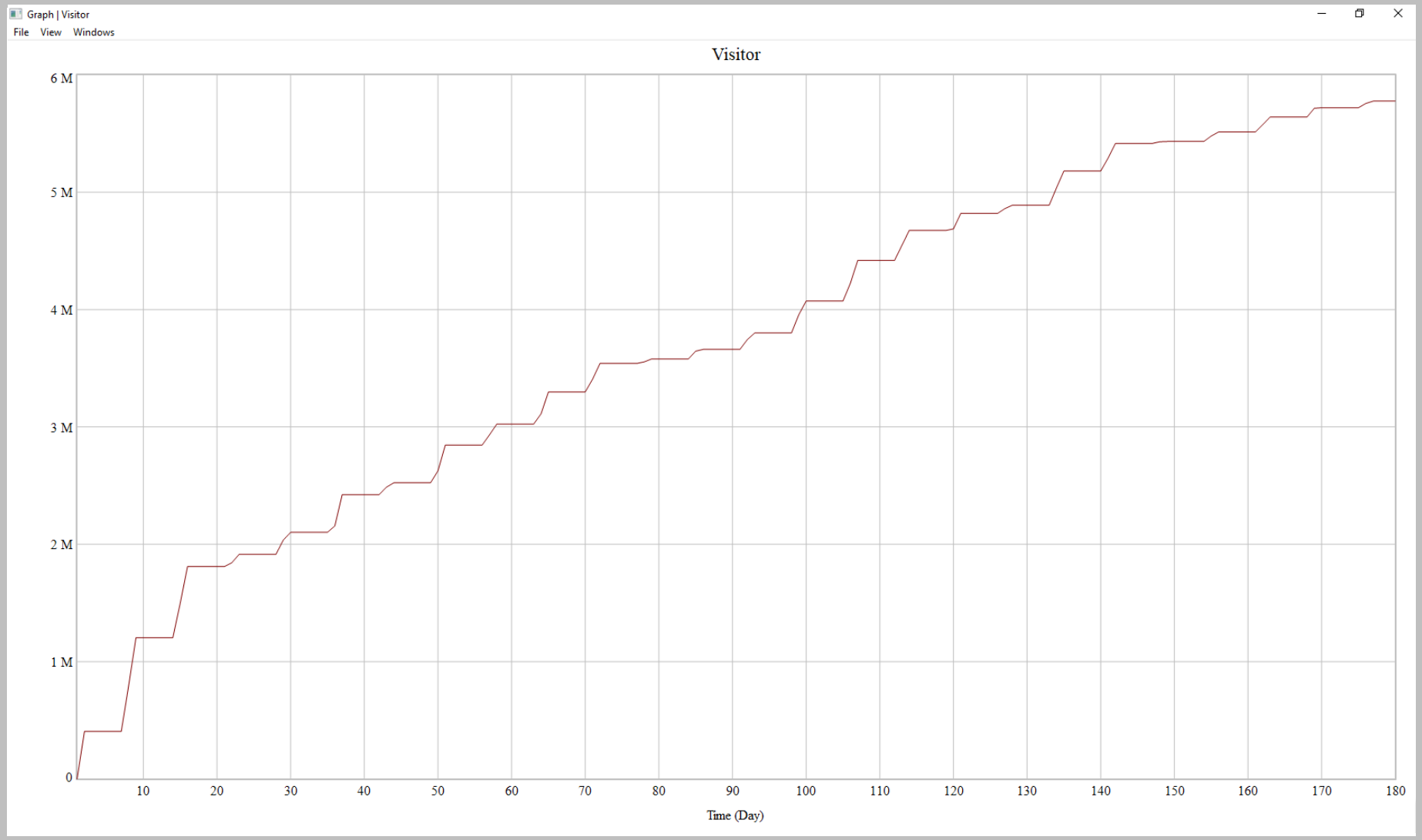
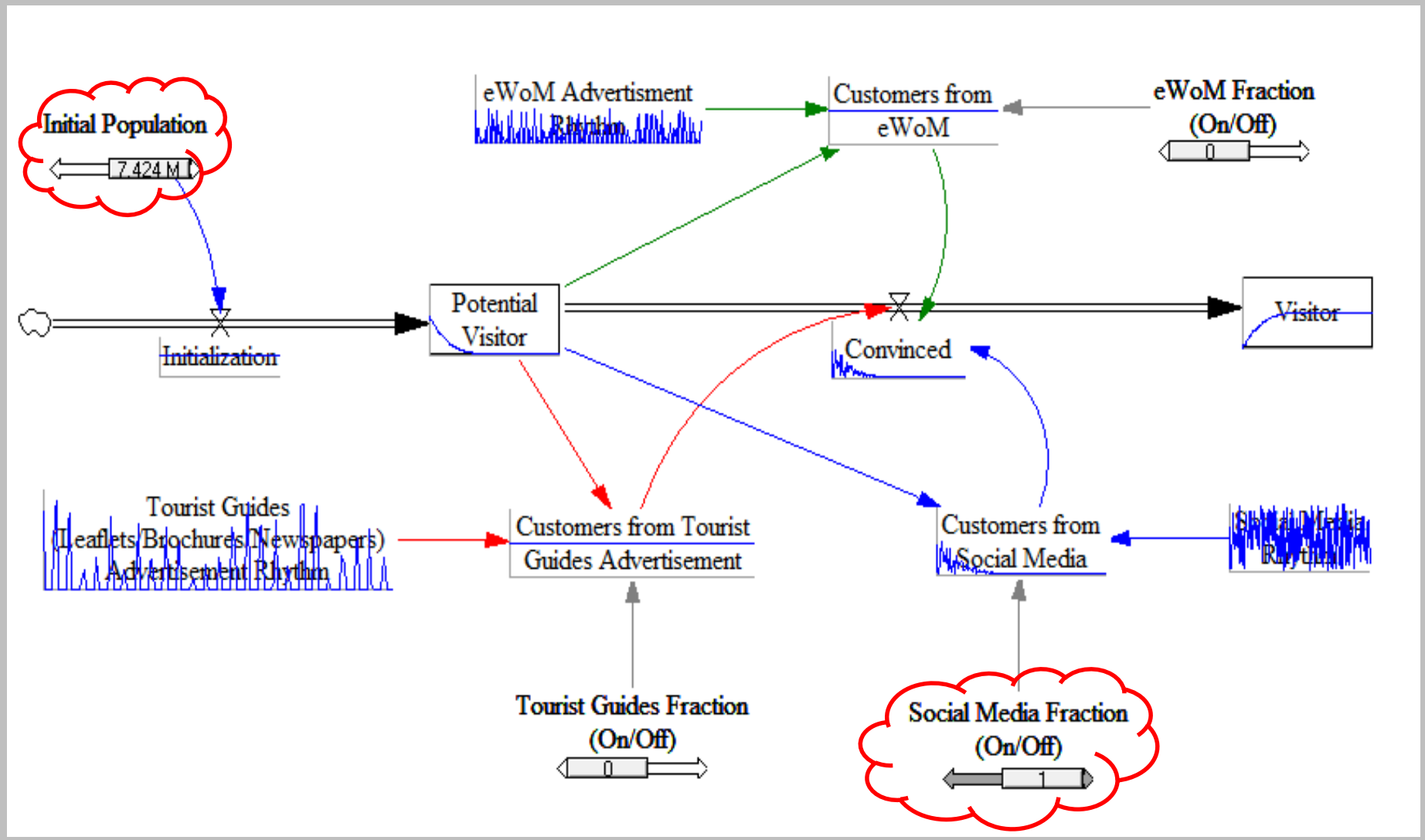
4. Model Presentation

1st Simulation



4. Model Presentation

2nd Simulation



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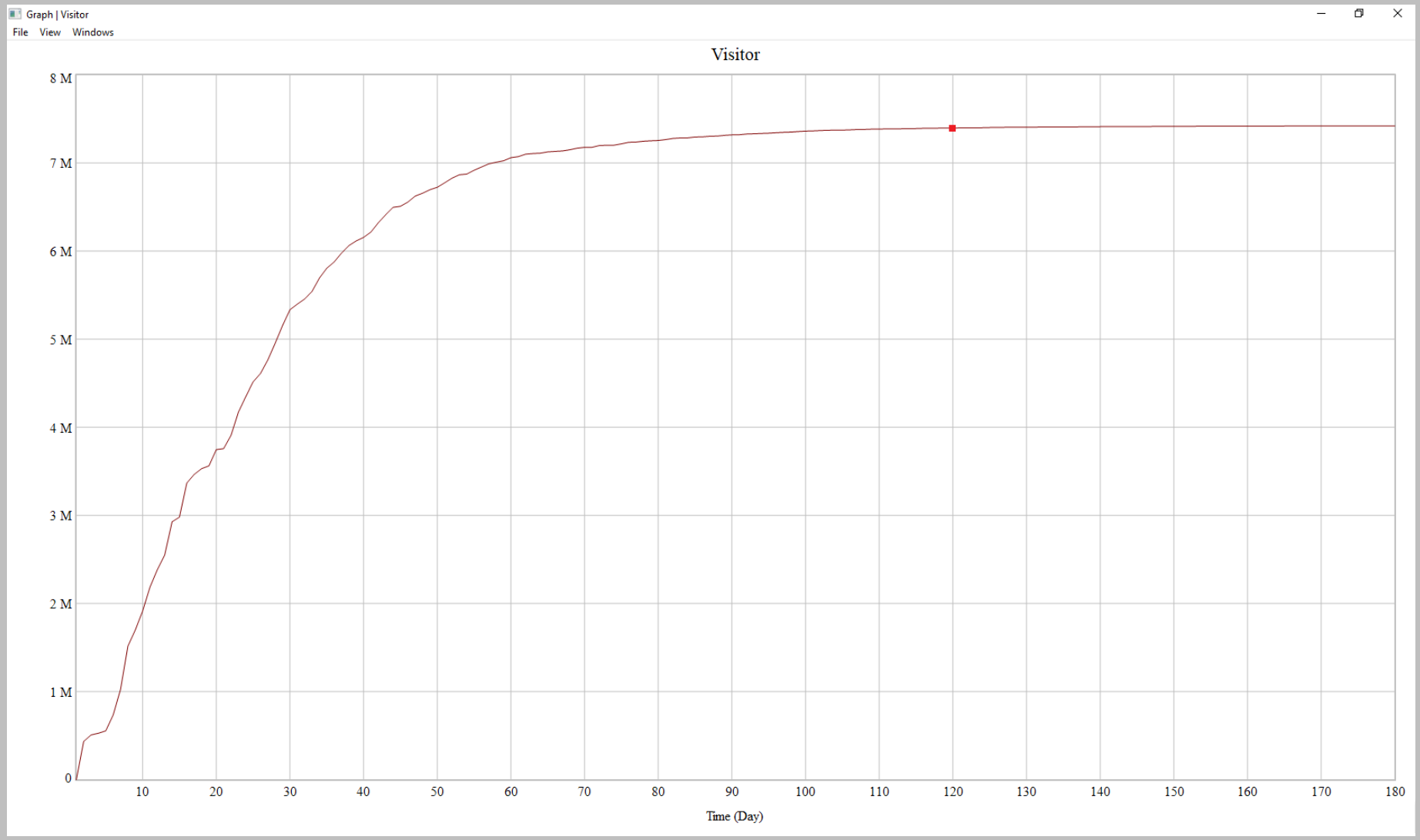
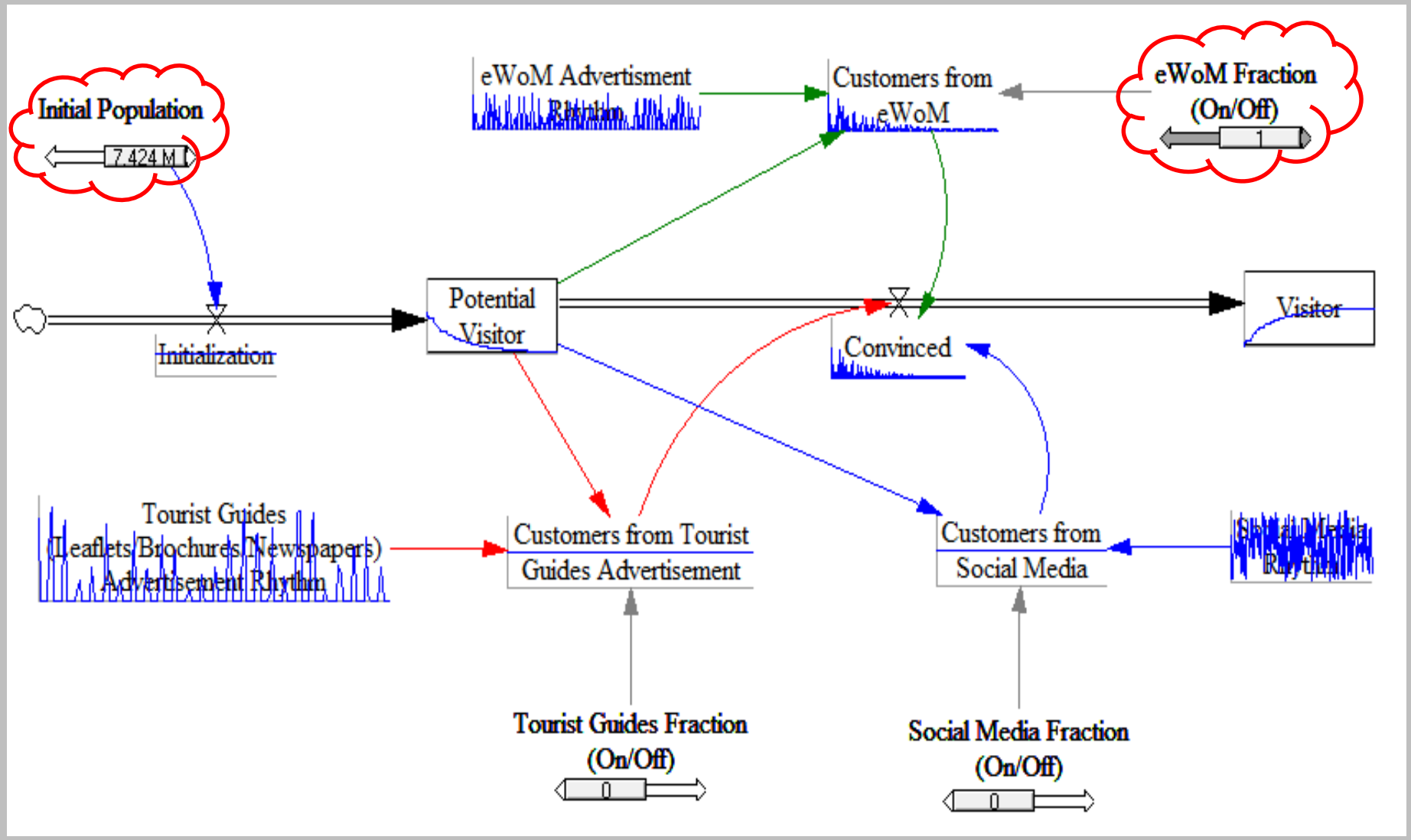
4. Model Presentation

2nd Simulation



4. Model Presentation

3rd Simulation



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4. Model Presentation

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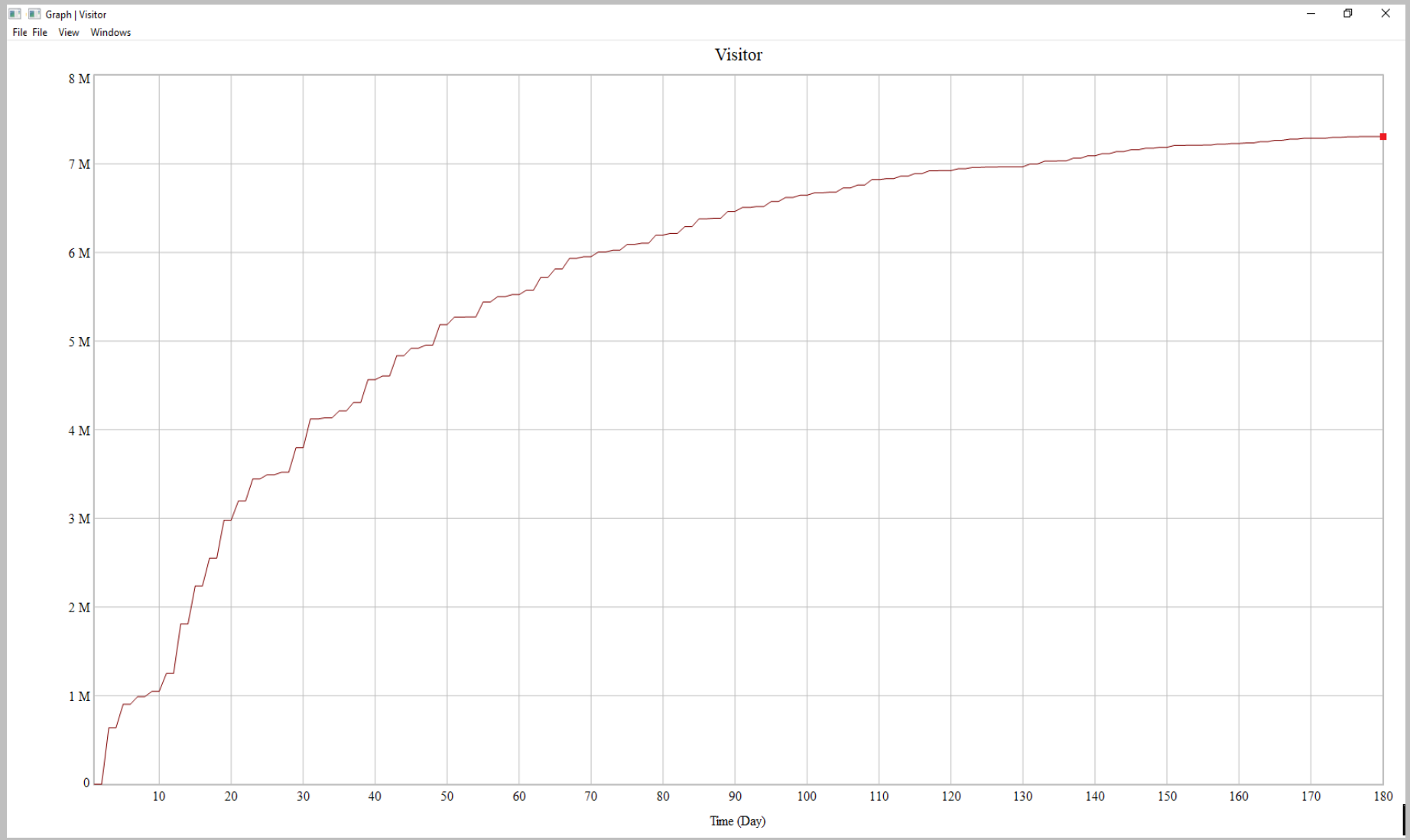
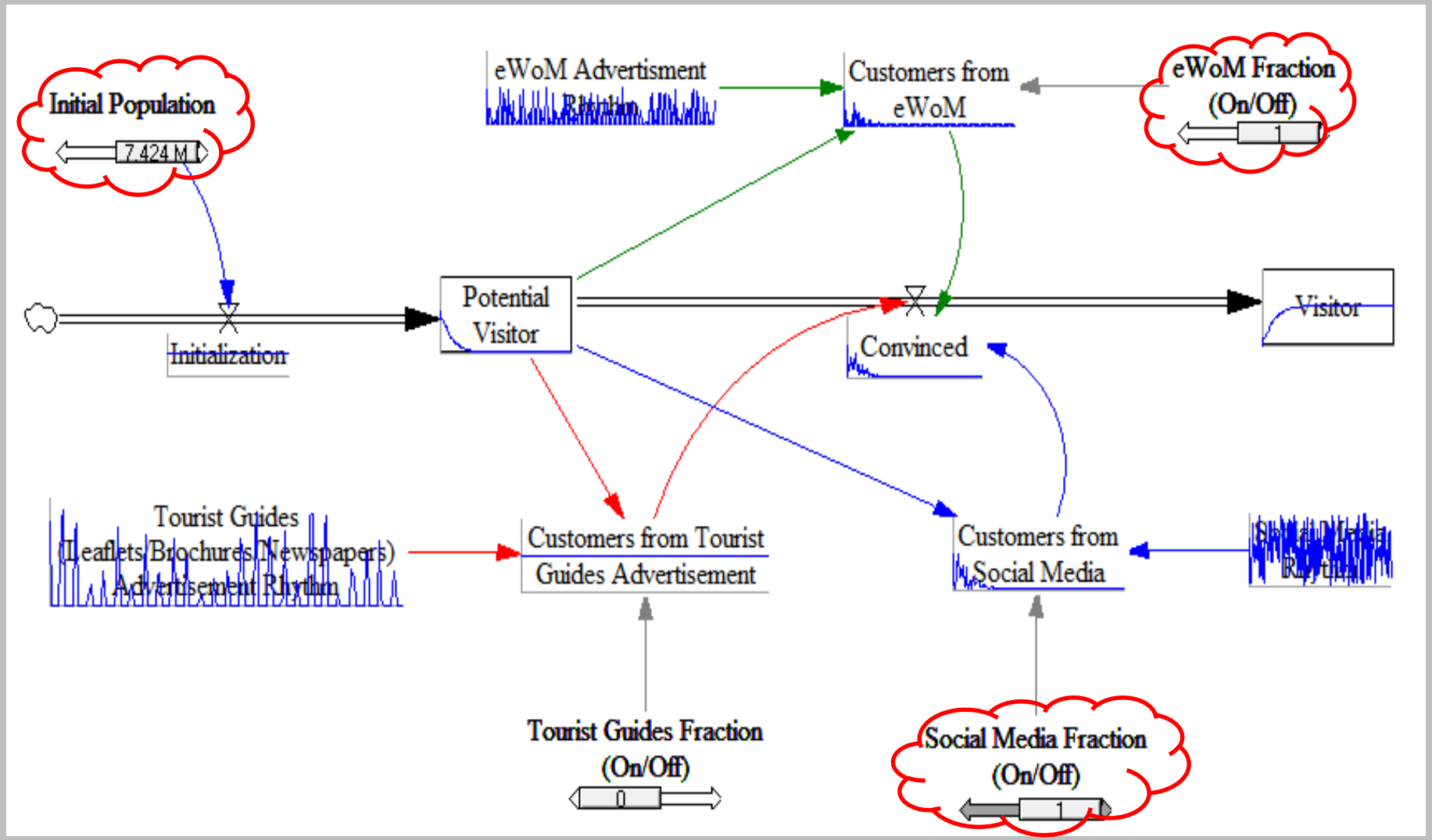
3rd Simulation



4. Model Presentation

Final Simulation



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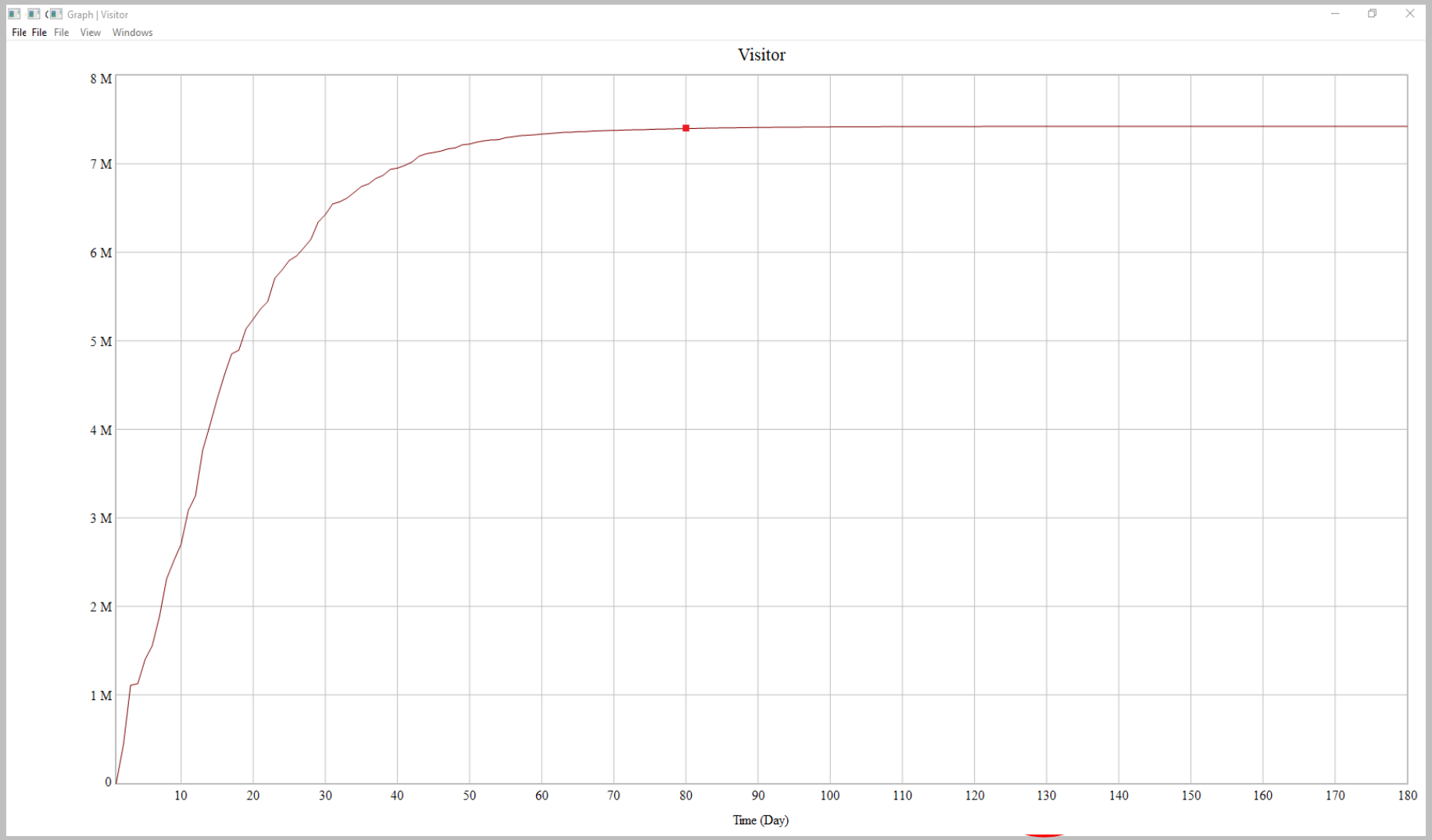
4. Model Presentation

Final Simulation



5. Conclusions

Specifically:

- As already mentioned, by using only Social Media or by expecting eWoM to multiply your future visitors, **IS NOT ENOUGH**. You need **BOTH** Social Media & eWoM.
- The combination of those two has **decreased** the final time **from 120 days to 80 days**. This fact can be translated to **33,33 % time reduction**.
- Determining time reduction, provides you with the ability to **estimate the possible cost** that your company MUST spend to use such technologies.
- This study can help you to **identify other variables**, that should be considered in your **Business Plan**.

Generally:

- The **Systemic** way of thinking offers the scholar **the opportunity to focus on problem solving through a different perspective**.
- The **usage of Systemic Processes, Techniques, Tools and Software** can predict whether a possible solution will solve the problem without causing distributions on the System, or it will lead the System to chaos.
- **Strategic Plan** and **Business Plan** could be **more efficient** if we use Systemic way of Thinking.

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6. Questions