KAZAKH BRITISH TECHNICAL UNIVERSITY

School for advanced sciences of Luchon

Network analysis and applications

the 2nd of July, 2014, Luchon, France

- **Student name:** Umirbekova Bibigul
- **E-mail:** umirbekova.b@gmail.com
- **Bachelor degree:** Almaty, KBTU, Software Engineering
- **Master degree:** Almaty, KBTU, 1st year master student, Information Systems
- **Faculty** of Information Technology
- **Supervisor:** Prof. Kurmanov B.
- **Interests:** Programming in Oracle, Databases, SQL, Python, Java, C++

Completed disciplines:

- Fuzzy sets and logic
- Soft computing
- Data Management
- Analysis of IS
- Architecture of IS
- Model Driven Architecture
- High Performance Architecture

Dissertation Thesis

- Simulation model of Telecommunication System

1-task: Investigation of Electronic Document Management System of Enterprise Using Simulation Modelling

Relevance of the work is that the effectiveness of management of the organization depends on the correct problem solving operational and quality formation documents (including electronic), on the monitoring of their performance, and also on elaborated system of storing, searching and using.

The novelty of this work

The novelty of this work is in the fact that in solving the problem of optimization of document management is proposed to use the apparatus of simulation modeling. It is proposed the usage of GPSS World simulation system [1] for forming model of DMS. The main advantage of GPSS World simulation system [1] is the ability to reproduce real processes with arbitrary precision.

[1] GPSS World Tutorial Manual. Copyright Minuteman Software. Holly Springs, NC, U.S.A. 2001.

Results.

Technological processes of document management systems can be represented as a network of multichannel queuing systems (MQS). At this case individual objects in a processing chain of document processing (technical facilities, human resources) can be represented as a MQS with queues.

Conclusion.

- Application of the simulation modeling apparatus allows analysis of existing (DMS) technology, and considers other alternative options for processing of documents in order to develop of recommendation to improve the existing technology.

Kuat Abdrau

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Education:

- Almaty University of Power Engineering and Telecommunication (AUPET), Almaty

Bachelor degree in Telecommunication (4 year)

- Moscow Power Engineering Institute (MPEI), Moscow

Bachelor degree in Economics (3 year, distance)

- Kazakh-British Technical University (KBTU), Almaty

1st year master student in Information Systems (2 year)

Interests:

- Network applications (Cisco, Juniper, Ericsson, Huawei, Alcatel SW)
- SEO (Google, Yandex Tools)
- Web development (PHP, Python, CSS, Java, HTML)

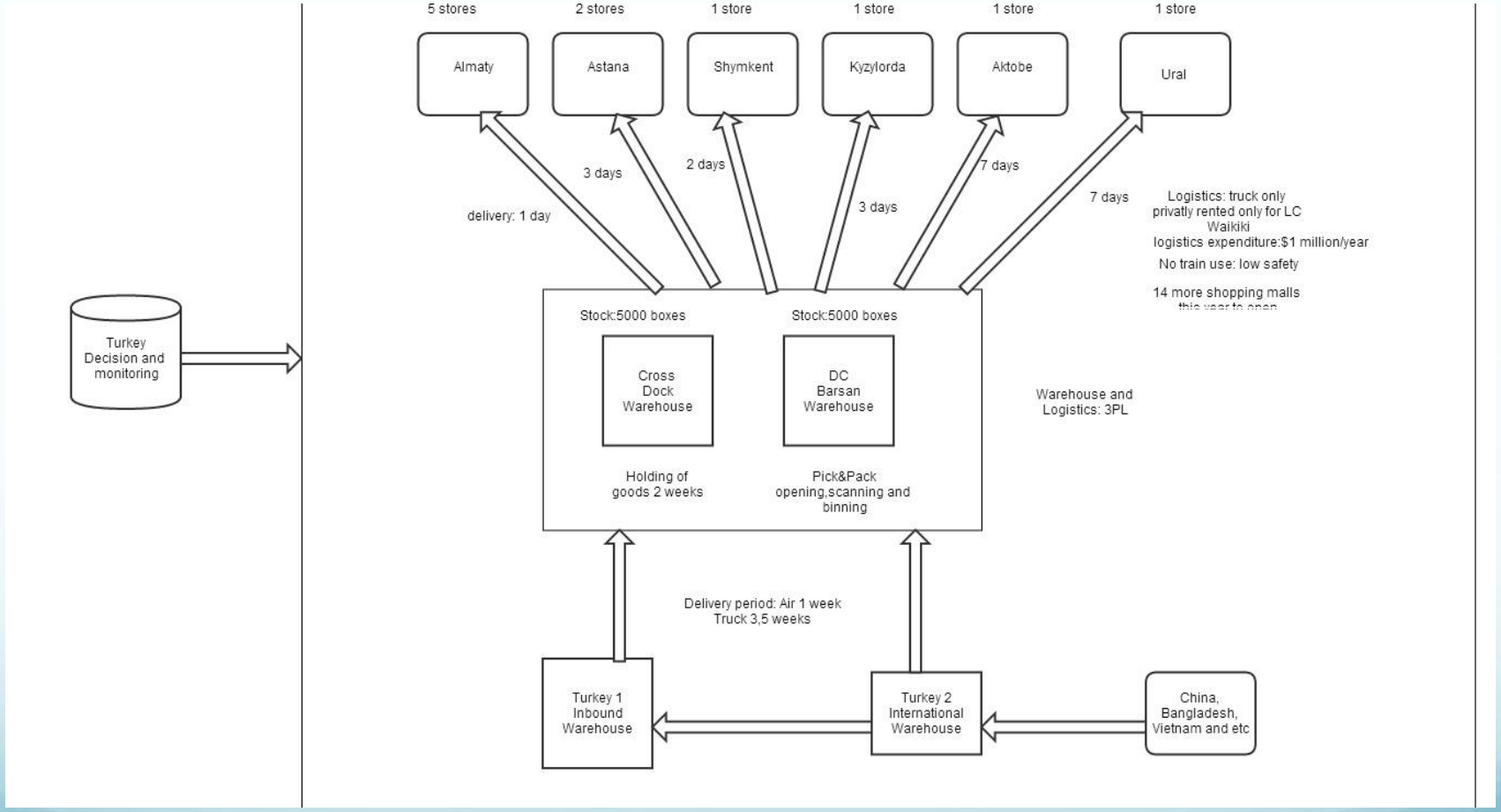
Using system dynamics and discrete event simulation for modelling and analysis of supply chain dynamics for consumer products

- Master students: Chingiz Kussainov, Kuat Abdrau
- Supervisor: prof. Ramesh Kini

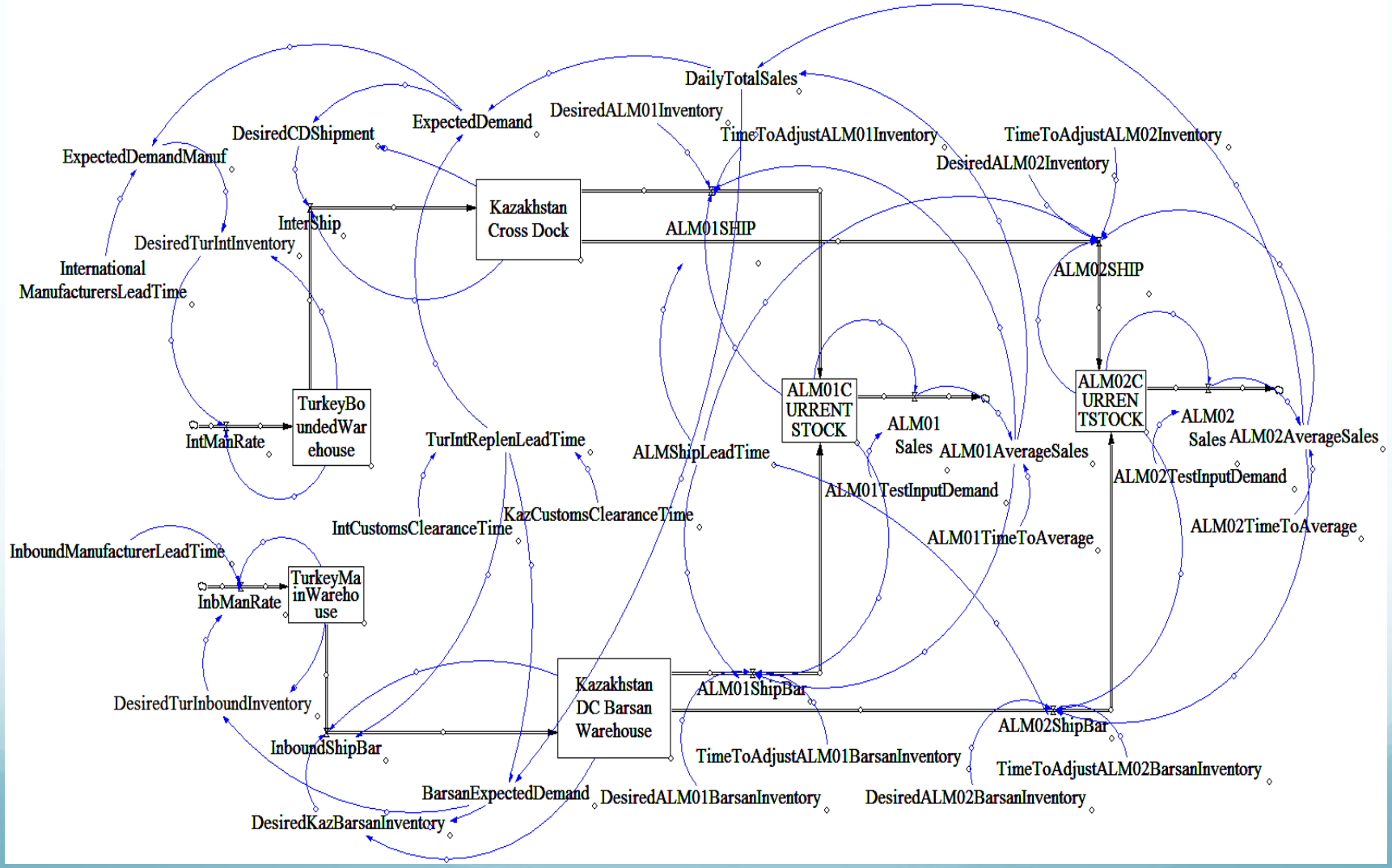
Abstract

- The purpose of study is to analyze and model current organization of apparels supply chain and improve the efficiency of supply chain with help of simulations using system dynamics approach in Vensim software.
- First of all, structure of existing supply chain system of apparel industry will be investigated and model will be generated according to investigation results in VENSIM software.
- Second of all, further improvements to the model will be proposed by changing decision making policies and other critical factors that affect fast fashion supply chain management.
- Object of research is Kazakhstan branch of international apparel retailer LC Waikiki

Target company: LC Waikiki Kazakhstan



LCW Current Model



Store locations in Kazakhstan

LCW Optimization 1: China warehouse

- Decreasing lead time by 4-8 weeks
- Direct shipment from China
- China’s warehouse replenishment as well as shipment rate improved by 50%.
- Less holding and transportation cost
- Local decision making

LCW Optimization 2: Direct shipment

- Decreasing lead time by 2 weeks
- Less holding and transportation costs
- Better logistics routing
- Decreased bullwhip effect

LCW Optimization 3: Local manufacturer

- Decreasing lead time by 4 weeks
- Minimum holding and transportation costs
- Less logistics routing
- Minimizing inventory
- Decreased bullwhip effect

Summary

- Stock shipment from bordering country like China
- Logistics routing by West Kazakhstan
- Partnering with Kazakhstan manufacturer
- Store-to-store shipment

Thank you for your attention!!!