

## Association for Information Systems AIS Electronic Library (AISeL)

---

AMCIS 2011 Proceedings - All Submissions

---

8-5-2011

# Business Process: Automation And Optimization Considerations In Hardwood Lumber Manufacturing

Libor Cech

*Appalachian State University*, [libor.cech@gmail.com](mailto:libor.cech@gmail.com)

Joseph A. Crazier

*Appalachian State University*, [cazierja@appstate.edu](mailto:cazierja@appstate.edu)

Brandy E. Hopkins

*Appalachian State University*, [brandy\\_elaine@yahoo.com](mailto:brandy_elaine@yahoo.com)

Follow this and additional works at: [http://aisel.aisnet.org/amcis2011\\_submissions](http://aisel.aisnet.org/amcis2011_submissions)

---

### Recommended Citation

Cech, Libor; Crazier, Joseph A.; and Hopkins, Brandy E., "Business Process: Automation And Optimization Considerations In Hardwood Lumber Manufacturing" (2011). *AMCIS 2011 Proceedings - All Submissions*. 320.  
[http://aisel.aisnet.org/amcis2011\\_submissions/320](http://aisel.aisnet.org/amcis2011_submissions/320)

This material is brought to you by AIS Electronic Library (AISeL). It has been accepted for inclusion in AMCIS 2011 Proceedings - All Submissions by an authorized administrator of AIS Electronic Library (AISeL). For more information, please contact [elibrary@aisnet.org](mailto:elibrary@aisnet.org).

# Americas Conference on Information Systems AMCIS 2011 Detroit

## Business Process: Automation And Optimization Considerations In Hardwood Lumber Manufacturing

**Libor Cech**  
Appalachian State University  
libor.cech@gmail.com

**Dr. Joseph A. Cazier**  
Appalachian State University  
cazierja@appstate.edu

**Brandy E. Hopkins**  
Appalachian State University  
brandy\_elaine@yahoo.com

### ABSTRACT

Historically, the hardwood lumber natural resource industry has been portrayed as a relatively low-tech industry. Most hardwood sawmills do not adequately consider the potential benefits of information systems enabled applications and solutions to enhance overall yield and efficiency. However, as computer-based technology is implemented across the entire manufacturing process, advanced optimization and automation could improve overall yield value to seventy percent or more (if properly applied). The primary purpose of this experiment is to evaluate the major benefits of using optimization and automation in the scanning carriage manufacturing component of sawmill production, including maximized efficiency and yield recovery. In addition, a significant impact comes by minimizing the wood waste, as well as by maximizing wood conversion efficiency in the manufacturing process, benefitting the environment. By maximizing efficiency while minimizing waste, the lumber industry can reduce its consumption of natural resources further aiding in the environmental resource gap as well.

### Keywords

Lumber industry, optimization, automation, natural resources