

## **Werkzaamheden werkpakket 1: Minor E-Commerce / E-fulfilment**

### **Doeleinden van dit werkpakket:**

- *Bepaling eindtermen van opleiding 1 en 2 (wat moeten de studenten kunnen na afronding opleiding?)*
- *Bepaling hoofd structuur en opzet opleidingen (1 en 2)*

### **Deliverables:**

- *Eindtermen 1 en 2*
- *High-level opzet opleidingen 1 en 2 (leerdoelen/dublin-descriptoren, toetsing aan competentieprofielen)*
- *Event om gezamenlijk opleidingsplan te lanceren en de opzet van de opleidingen te valideren met het e-commerce bedrijfsleven*
- *Afronding gepland in oktober / november 2015*

E-commerce is inmiddels gemeengoed in deze wereld. Steeds meer consumenten en bedrijven maken gebruik van het internet om hun producten en diensten aan te schaffen of te verkopen. De gevolgen van de groei van e-commerce op de logistieke activiteiten begint steeds meer aandacht te krijgen.

### **Doel van de minor**

Fontys Hogeschool Techniek en Logistiek te Venlo speelt in op de huidige markt en biedt daarom een minor aan waarin E-fulfilment uitvoerig behandeld wordt. Fontys biedt met deze "E-fulfilment-minor" studenten een nog breder onderwijsaanbod en geeft invulling aan de behoefte van het bedrijfsleven door goed voorbereide studenten klaar te stomen voor de beroepspraktijk. Na afronding van de minor heeft de student een goede basis gecreëerd en heeft inzicht in de verschillende processen op het gebied van e-fulfilment .

### **Minor E-Preneurship**

Fontys Hogeschool en het KennisDC Logistiek Limburg zijn in februari 2016 gestart met de minor E-Preneurship. De minor is ontwikkeld in samenwerking met Thuiswinkel.org en is een combinatie van E-commerce / E-fulfilment en traditionele ondernemerschap.

Met deze minor willen we niet alleen logistieke Hbo studenten bereiken. De doelgroep kan breder getrokken worden en is voor meerdere studies bestemd. Denk hierbij aan bedrijfseconomie, international business, commerciële economie, ICT, MER, etc. Tijdens de minor leren de studenten over verschillende fasen in het proces van e-commerce en e-fulfilment en daarnaast komen ook de ondernemende competenties aan bod om een e-bedrijf succesvol te maken. We proberen de link naar het bedrijfsleven te versterken door studenten een praktijkopdracht te laten uitvoeren bij een bedrijf.

We hebben de volgende fundamentele onderwerpen in de minor verwerkt:

Minor E-Preneurship		
E-fulfilment		Entrepreneurship
Introduction to e-commerce	Cross-border e-fulfilment	Business plan writing
ICT and e-commerce	Developments in delivery options and consumer demand	E-marketing and sales: Market, customer and the way of communication with the market/customer.
Traffic channels and internet marketing	Utilizing big data to optimize the e-commerce Supply Chain	Research methods and business planning
Assortment, buying & merchandising	Optimizing and managing the Last-mile	E-business finance
E-warehousing	Legal, customs and compliance	Entrepreneurial behaviour
Transportation & delivery & last-mile	Managing hyper growth in a physical e-commerce Environment	Skills
Returns management	Mechanization versus HR planning – How to manage peak periods?	Workshop techniques

## Conceptplanning van de minor (nov. 2015)

	1	2	3	4	5	6	7	TT	TT	1	2	3	4	5	6	7	TT	TT	TT	TT
<b>Skills</b>								INTR									CBF			
<b>Lectures</b>	KICK							ICT									REM			
	INTR	ICT	TIM	ABM	EWH	LAMI	REM	TIM									DDO			
	INTR	ICT	TIM	ABM	EWH	LAMI	REM	EWH	CBF	DDO	BD	MLM	CUS	HGE	MECH	CBF				
	ICT	INTR	ABM	TIM	LAMI	EWH	REM	LAMI	CBF	DDO	BD	MLM	CUS	HGE	MECH	REM	DDO			
	ICT	INTR	ABM	TIM	LAMI	EWH	REM	REM	CBF	BD	DDO	CUS	MLM	MECH	HGE	MECH	CBF	BD		
								CBF	BD	DDO	CUS	MLM	MECH	HGE	Guest	Guest	MLM	CUS		
									CBF	BD	DDO	CUS	MLM	MECH	Guest	Guest	Guest	MECH		
										Guest		HGE								
																		MECH		
<b>Project</b>	?	?	PLAN	PLAN	PLAN	PLAN	?			PROJECT	?	PROJECT	PROJECT	PROJECT						
<b>Skills</b>	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3
<b>Lectures</b>	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8
<b>Project</b>	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4
CONTACT	15	15	15	15	15	15	15	15	15	15	15	15	15	15	15	15	15	15	15	15
SELFSTUDY	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25
<b>Legend:</b>																				
Q3	KICK	Kick-Off																		
	1 INTR	Introduction to E-commerce																		
	2 ICT	ICT and E-commerce																		
	3 TIM	Traffic Channels and Internet Marketing																		
	4 ABM	Assortment, Buying & Merchandising																		
	5 EWH	E-Warehousing																		
	6 LAMI	LAMI / Transportation, Delivery and the Last Mile																		
Q4	7 REM	Returns Management																		
	1 CBF	Cross-border E-fulfilment																		
	2 DOD	Delivery Options & Consumer Demand																		
	3 BDO	Big Data SC optimization																		
	4 OML	Optimizing and Managing the Last Mile																		
	5 LCC	Legal, Customs and Compliance																		
	6 HGE	Managing Hyper-Growth Environments																		
	7 MPP	Mechanisation vs. HR-Planning / Managing peak period																		
	Note: One code ("INTR") represents 90 minutes of teaching/contact																			

Test  
GO/NO or 0,5pt = 90min

## Toelichting

Aan de hand van de geplande lessen, ook vermeld in bovenstaand schema, zijn leerdoelen per vak opgesteld.

## Learning Goals

### 1\_1\_INTR / Introduction to E-commerce

- Identifying the scope of e-commerce and being able to distinguish it from related concepts such as e-business.

Scope	E-business	Intersections
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- Applying the (8) unique features of e-commerce to relevant business cases and analyzing/predicting their influence in everyday business.

Ubiquity	Global Reach	Universal Standards	Richness
Interactivity	Information Density	Personalization	Social Tech
- Defining key capabilities required in any eCommerce business and apply them to relevant case studies.

Localization	Pricing configuration
Order management	Payment processing
Merchandising	Integration/APIs
Reporting	Subscription management
- Identifying differences in online maturity of different product categories
  - Market share / Market growth
  - BCG Matrix
  - Example Nespresso (maturity)
  - Example Groceries (international)
- Analysing the behavior of major players in the eCommerce space
  - Differentiation Models (Price;Product)
  - Amazon growth model

### 1\_2\_ICT / ICT and E-commerce

- Summarizing and classifying the different ICT platforms E-commerce companies are using.
- Illustrating the function of different ICT building blocks required for E-commerce.
- Applying these building blocks to company cases and evaluating potential advantages within the sc.
- Comparing different Analytics tools used in the Commerce industry, and constructing appropriate cases for fictional use.

### **1\_3\_TCM / Traffic Channels and Internet Marketing**

- Gaining an overview on the diversity in traffic channels in E-Commerce
- Assigning the core capabilities required within each of those traffic channels.
- Applying the use of Search Engine Optimization to relevant fictional cases and determining potential impact from a marketing-perspective (SEO).
- Justifying how Search Engine Advertising can leverage business activities but also represent a waste in resources (SEA).

### **1\_4\_ABK / Assortment, Buying & Merchandising**

- Classifying goods according to Commodity and Long Tail concepts.  
Basic differences      Product examples
- Illustrating the variety in different Assortment, Buying & Merchandising decisions to be made
  - Examining the structure of the buying process.
  - Comparing how e-tailers determine the profitability of their merchandising decisions
  - Differentiating how e-tailers forecast sales for merchandise classifications.
  - Summarizing what trade-offs e-tailers must make to ensure appropriate type and amount of merchandise.
  - Analyzing how e-tailers plan their assortments.
- Identifying the potential impact of Inbound Supply Chain structure and setup.
  - Evaluating why consumer demand evolves towards Real-time
  - SC gaps leading to Poor performance
  - Solution(s): Fulfilment Models (e.g. drop shipping)
  - Transport modes & nodes (role of nodes!)
  - Role of information & communication (SC virtualization)
  - Physical vs. virtual performance

### **1\_5\_EWH / E-Warehousing**

- Gaining an overview on the key KPI's for E-Warehousing and analyzing their potential usefulness in particular business areas.  
Shipped on time      Picked on time      Inventory accuracy      Stockturns
- Differentiating different types of warehouse structure and processes typically used in E-commerce environments.
- Comparing different warehousing strategies suitable to cope with Seasonality in e-Fulfillment and being able to apply those strategies correctly to a range of cases.
- Interpreting the potential use for Mechanization in particular e-Fulfillment processes, and arguing for or against particular kinds of application in company cases.

## **1\_6\_LAMI / Transportation, Delivery and the Last Mile**

- Developing an understanding regarding the variety of players involved in last-mile fulfilment
  - Differentiating between individual last-mile players
  - Evaluating their scope within an E-commerce SC (LSPs; PSPs; Special Services; Forwarders; etc.).
- Making sense of the use of individual modalities (is this delivery options?) in e-Fulfilment
  - Analyzing the variety in Last-mile delivery options and specific characteristics (e.g. share)
  - Interpreting the impact of fulfilment channels (e.g. drop shipping) on these delivery options and comparing theoretical performance results (geographic).
- Determine the typical structure of national and international parcel and post networks
  - Understanding the strategical importance of carrier-subcontracting. (ParcelForce-DHL)
  - Comparing domestic in-transit times of the BeNeLux and Germany.
  - Comparing domestic- to international in-transit and evaluating potential consequences in performance discrepancies.
  - Differentiating between in-transit as a competitive differentiator (e.g. Prime) and “Best price” approaches.
  - Critically evaluating recent developments in (inter-) national parcel networks and justifying underlying reasons for these market developments.
  - Developing suggestions for improved political regulations to stimulate international networks.

## **1\_7\_Rem / Returns Management**

- Comprehend the significance of return issues for E-commerce companies.
  - Evaluate the criticality of returns based on a variety of business segments.
  - Analyze the role that returns have within the parcel market, and how players strive to minimize return cost.
  - Critically review the potential role of returns and possible savings related to new delivery options.
- Gaining knowledge on different solutions for the return process.
  - Distinguish between logistical and operational returns approaches.
  - Argue whether one of the two is limited in its accessibility and why.
  - Discuss the variety in returns options available, respective potential and future developments.
- Applying these solutions to return processes in an international context
  - Assessing to which extent returns options are applicable for an international market.
  - Discuss the extent in transferability for international networks.

## **2\_1\_CBF / Cross-border E-fulfilment**

- Critically reviewing the complexity of pan-European and global e-Fulfillment and evaluating recent improvements and lasting SC-gaps leaving room for future improvements.
- Describing the levers available to optimize cross-border E-fulfilment, and developing appropriate fictional scenarios of use in order to substantiate individual understanding.
- Being able to strategically handle the trade-off between local warehouses and cross-border fulfillment within individual company cases and distribution scenarios.

## **2\_2\_DOD / Delivery Options & Consumer Demand**

- Identifying the different last-mile delivery options and categorizing them according to scientific literature and criteria.
  - Outlining the role of classic home delivery approaches throughout European countries and determining individual significance for E-commerce.
  - Demonstrating how even established delivery options can vary vastly throughout European markets.
  - Constructing an overview on innovative & upcoming delivery options and related cases.

(Attended/Unattended - Home/Other – Upcoming - Cost & Margins – Delivery speed)

- Illustrating consumer demand for each of these delivery options, including international differences and, and generating last/mile strategies according to individual market challenges.
  - Analyzing the domestic demand patterns within the Netherlands and linking them to consumer preferences.
  - Comparing these consumer preferences to international settings and arguing for individual developments based on environmental developments of particular countries (Example: High population density NL -> Comparatively short domestic in-transit).
  - Demonstrating how process innovation can influence consumer preferences and lead to strategic advantage on the field of last-mile delivery.
  - Illustrating how some E-commerce branches mature slowly due to a lack branch-related process-solutions (Groceries), and how consumer preferences can make up for this.

(Inter-)National Demand - Share - Relevant markets - Challenges (example Groceries)

- Structuring the trends and best practices in last-mile delivery options and constructing substantiated solutions for individual cases.
  - Variety of case studies
  - Outlining how Cool Blue tries to innovate on the field of delivery in order to differentiate from its competitors, and why this can also be a potential threat for companies.
  - Clarifying how Amazon stimulates customer retention by offering distinctive delivery services.

Some regional approaches (TBA)

- Assessing different solutions in order to evaluate their theoretical potential in terms of feasibility, cost, and performance.
  - Composing a coherent conclusion on individual options involving all previously mentioned learning goals. Hence being able to argue on potential, price and

performance interaction for today's most common delivery options.

### **2\_3\_BDO / Big Data SC optimization**

- Summing up potential Data sources helping to facilitate Big-data

Orders	Products	Baskets	Visits	Users	Campaigns
Referring links		Keywords	Social (FB, Twitter, Google)		Cookies
	Google Analytics				

- Learn about the different areas where Big Data Optimization can have an impact on supply chain complexity and/or cost

Role of decision-making	Prediction	Tracking
Supplier Management	Strategic Pricing	Customization
Future applications (IoT & CC)		

- Translating potential data metrics into practical uses of analysis.

Is the most watched product also the best-selling one?

Categorization and segmentation.

Correlation (for instance social media and sales).

Recommendation

- Justifying how these applications are applied in real/life case studies (company cases), and interpreting how the application within particular cases can lead to a competitive advantage.

Amazon product pricing

T-Mobile customer segmentation (for migration to premium models)

Starbucks using personalized customer vouchers, recovering lost customers.

EasySize, analyzing the correlation between returns and fitting sizes for certain brands to recommend correct sizes.

### **2\_4\_OLM / Optimizing and Managing the Last Mile**

- Identifying typical issues in last-mile fulfillment.
- Analyzing these issues in order to apply suitable solutions leading to an increase in quality of last-mile fulfillment.
- Determining the potential usefulness of solutions used in practical cases within last-mile fulfillment.

### **2\_5\_LCC / Legal, Customs and Compliance**

- Being able to apply a variety of national VAT rules relevant for the distribution of (non-) physical goods and services.
- Analyzing the impact of different country regulations on international E-commerce operations in order to predict possible SC-gaps and issues.
- Illustrating the role of Customs in inbound and outbound fulfillment processes and evaluating how shipment processes can be modified in order enable seamless customs handling.

### **2\_6\_HGE / Managing Hyper-Growth Environments**

- Identifying typical supply chain issues related to High Growth environments
- Managing working capital in rapidly developing E-commerce environments (WCM).

Liquidity management	Internal/External factors	Ratio calculations
Conversion cycle	Operation cycle	Company examples

## Investment strategies and policies

- Demonstrating and comparing the variety in approaches on how to manage uncertainty (double?).
- Applying the scrum approach and constructing appropriate outcomes (acc. to this approach) in terms of project work.

High productivity	Short time	Priority-setting	Sprints
Scrum mindset	Roles	Rules (DailyScrum)	Retrospectives

## 2\_7\_MPP / Mechanisation vs. HR-Planning / Managing peak periods

- Applying typical seasonality issues in e-Fulfillment to real-life cases and composing a substantiated problem analysis.

Reasons	Definition	Pitfalls	Triggers	Ethics
Suitability	Limitations	Success levers		
Concepts (goods to man / vice versa)				

- Applying theoretical solutions for seasonality issues to relevant case literature.

Seasonal hiring	Skills	Slump awareness (time/reason)	
Marketing as a lever	Product cycles	Loyalty	Suitability
New markets	Scalability of Machines		

- Summarizing the potential impact of mechanization and generating an overview of beneficial and disadvantageous approaches in this particular field of interest.

Example: Amazon (warehousing challenging because of product diversity)

Misc: Conveying, Sorting, Traceability, Inspection, VAL

- Identifying suitable approaches to manage peak periods in E-commerce and commenting on individual applicability for both steady and peak demand.

Manual workforce - Reasons for suitability to manage peak periods.

Mechanization – Pay off through utilization: Use in high volume environments (steady) or for qualitative advantages.

## **Event – Opening Minor E-Preneurship 16-2-2016**

Op dinsdag 16 februari 2016 vond de officiële opening plaats van de minor E-Preneurship.

Doel van de opening:

- 1<sup>e</sup> minor e-fulfilment in Nederland in aanraking laten komen met pers;
- Min. 50 externen;
- Bedrijven laten aanhaken bij onderwerp e-commerce & e-fulfilment (community opzetten, studenten plaatsen, etc.);
- Bedrijven het belang laten inzien van deze opleiding met oog op de toekomst.

# Studenten beginnen in Venlo aan eerste HBO-minor e-fulfilment

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De eerste studenten aan de minor E-Preneurship ontvingen uit handen van directeur Hans Aarts van Fontys Hogeschool Techniek en Logistiek een ipad van Limburgse chocolade. (Foto Erik van Huizen).

Zestien studenten aan de Fontys Hogeschool in Venlo zijn deze week begonnen aan de minor E-Preneurship. De minor is de eerste e-fulfilment minor opleiding op HBO niveau in Nederland. Directeur Hans Aarts van Fontys Hogeschool Techniek en Logistiek opende dinsdag onder grote belangstelling de minor. Uit een bakfiets overhandigde hij hiervoor de studenten een ipad van Limburgse chocolade.

Het idee voor de minor ontstond volgens parttime lector supply chain management Roy Lenders nadat bleek dat steeds meer afgestudeerden gingen werken bij e-commerce bedrijven als Zalando en Amazon. 'In onze logistieke opleidingen werd uiteraard al wel gesproken over e-commerce en e-fulfilment, maar we hadden nog geen specialisatie op dit gebied. Dat is nu veranderd. We zijn nu begonnen met zestien studenten, de volgende minor start in september.'

## *Veel praktijk*

De minor is een initiatief van Fontys Hogeschool Techniek en Logistiek en KennisDC Logistiek Limburg in samenwerking met Thuiswinkel.org. De in het Engels gegeven minor duurt vijf maanden. 'De minor is vooral een mix van leren en doen', vertelde Johan Wijnhoven als docent logistiek en economie. 'De minor bestaat daarvoor uit de onderdelen e-commerce, e-fulfilment en entrepreneurship. De studenten krijgen in de minor veel les van mensen uit de praktijk.'

De minor bestaat uit twee fasen. Beide duren tien weken. Fase 1 behandelt e-commerce in de breedste zin van het woord. Aan bod komen onder meer ict en e-commerce, internetmarketing en algemene onderwerpen binnen e-fulfilment. In fase 2 wordt dieper ingegaan op e-fulfilment met onderwerpen als crossborder, de impact van big data, legal & customs & compliance en de last mile. In beide fasen maken de studenten een project in opdracht van bedrijven. Vooral in fase 2 komen veel gastsprekers uit het bedrijfsleven aan het woord. Het examen bestaat uit het schrijven van een businessplan, een presentatie, een portfolio en een assessment.

### *Goede toekomst*

De afgestudeerden aan de minor gaan volgens de aanwezige sprekers een goede toekomst tegemoet. ‘E-commerce groeit hard en er zijn grote kansen voor e-fulfilment in Limburg’, zei Twan Beurskens als gedeputeerde Economie en Kennisinfrastructuur van de Provincie Limburg. ‘De sector groeit zelfs zo hard dat er in Europa 200.000 extra banen beschikbaar komen.’

Ook uit onderzoek van Thuiswinkel.org blijkt dat consumenten steeds meer online aankopen doen. ‘E-commerce experts schatten dat in 2020 ongeveer 36% van de aankopen online gebeurt’, vertelde Eveline Poerink van Thuiswinkel.org. ‘En consumenten zelf denken dat in 2020 ongeveer 52% online wordt gekocht.

Tegenwoordig heeft al 76% van de Nederlanders al eens iets online besteld. De omzet van online aankopen in Nederland bedraagt 14 miljard euro. Experts verwachten dat marktplaatsen als bol.com in 2020 ongeveer 40% van de markt in handen hebben. Alibaba haalt nu al een omzet gelijk aan het bruto nationaal product van Finland.’

Ook de cijfers van Cimpress, onder meer bekend van Vistaprint, zijn indrukwekkend. Het bedrijf verstuurde sinds de oprichting in 2000 inmiddels jaarlijks 25 miljoen zendingen over de hele wereld met onder meer zes miljard visitekaartjes. André van de Ven zag als directeur supply chain het aantal zendingen van de vestiging in Venlo stijgen van 0,8 miljoen in 2004 tot 10,6 miljoen in 2012. Hij wees onder meer op het verbeteren van de leveringen aan consumenten en het belang van websites in de taal van het land. ‘Toen we in Denemarken een eigen website introduceerden, verkochten we ineens tien keer zoveel.’