

**Utiliza Metode *Economic Order Quantity (EOQ)* hodi Analiza Kontrolu Inventoria ba  
Material Prima Kafé  
(Estudu kauza Kompañia Coopetiva Kafé Timor (CCT-NCBA))**

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**ABSTRATU**

Bazeia ba problema prinsipal ne'ebe mak kompañia (CCT-NCBA) enfrenta mak menus inventariu ba material prima kafé. Inventariu material prima mak hanesan favor importante ba prosesu produsaun kafé. Utiliza metodu EOQ hodi identifika ba hamenon (*pemesanan*) ou sosa (*pembelian*) ne'ebe ho objektivu atu minimiza kustu inventariu liu husi kustus hamenon (*pemesanan*) no kustus (*penyeimpanan*). Valór inventáriu mak númeru kafé ne'ebé haruka kada *order* no folin kafé ne'ebe kustu variavel ida-ne'ebé ninia montante la depende ba númeru kafé kada *order*, montante kafé nia kustu armazenamentu mak kompañia CCT-NCBA Manleuana determina iha 20% husi valór inventáriu material prima. Rejultadu atual husi total inventoriu kost ita bele hatene katak kustu ne'ebe maka kompañia CCT-NCBA presija aloka ba iha hola material prima fulan walu (8) nian mak \$ 2.427,85. Bazeia ba kalkulasaun ne'ebe uza ona metodu EOQ ne'e hanesan tempu ida atu sosa prima iha fula walu (8) Bazeia ba konkluziun sira iha leten bele fo sugestau ba kompañia sira bele uza hanesan material ba konsiderasaun.

***Liafuan Xave: Metodu EOQ, Kontrolu Inventariu, Material Prima***

***Using the Economic Order Quantity Method (EOQ) to analyze the control of the Inventory of Primary Coffee Material (Coffee Cooperative Company Timor Case Study)***

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***ABSTRACT***

*The main problem the company (CCT-NCBA) faced was a lack of inventory of coffee primary materials. The inventory of primary materials is an important aspect of the coffee production process. Using the EOQ method to identify for the purchase of the money that aims to minimize the cost of the inventory through the purchase of the money The value of the inventory is the number of cups of coffee sent with each order, and the price of the coffee is a variable cost whose amount does not depend on the number of cups of coffee sent with each order. The amount of the coffee storage cost is compared to the CCT-NCBA Manleuana, which is determined at 20% of the value of the inventory of primary materials. As a result of the economic order quantity (EOQ) being 91.286 kg at the time of ordering, the current result of the total inventory costs tells us that the cost to be allocated by the CCT-NCBA company for the purchase of primary materials for eight months (8) is \$2.427.85. Based on the calculations used by the EOQ method, it is time to purchase after eight months. Based on the above findings, it can be suggested that companies can use it as material for consideration.*

***Key words: EOQ and total cost of inventory***

## I. INTRODUSAUN

Mundu edukasaun agora kompetetivu tables, tamba ne'e siensia sai hanesan fator importante atu fo kontribuisaun ba dezenvolvimentu nasaun, hodi hatan ba nesesidade komunidadade nian. Atividade ekonómika iha Timor-Leste oras ne'e dezenvolve lalais tebes ho ambiente kompetitivu nebe'e a'as, ho nune'e parte hotu-hotu ne'ebe envolve iha empreza nia laran sempre buka no halo analiza estratejia para bele halo kompetisaun iha merkadoria. Iha era ukun-an governu Timor-Leste fo liberdade ba sidadaun hotu-hotu atu halao aktividade hodi desenvolve ekonomia Timor-Leste. Kompetisaun entre empreza no kontinua buras ba bebeik, maibe iha mos empreza balun nebe'e tenki taka/bangkrut. Kestaun sira ne'e akontese tamba empreza ne'ebe bele resista sira iha jestaun no estratejia ne'ebe diak, maibe kontrariu ba empreza sira nebe'e falla.

Produsaun barak, kompetisaun mos barak entre empreza sira, Koalia kona-ba produsaun sei hanoin mos nesesidade konsumidor sira nia, atu bele kompete liu tan kona ba produtu ne'ebe mak empreza sira iha. Empreza tenke hare mos kona-ba estratejia merkadoria hodi bele fa'an sira nia produsaun. Empreza hotu-hotu nebe'e mak kompete ho nia objetivu atu kria produtu no servisu (jasa) ne'ebe diak ba konsumidores sira atu nune'e bele kompete nafatin iha mundu modernu

hanesan agora dadauk ne'e. Iha Situasaun ne'ebe nakonu ho kompetisaun hanesan ne'e empreza presija servisu ho estratejia iha empreza nia laran hodi bele hakbesik an liu tan ba konsumidor sira nian, liu-liu iha Parte merkadoria.

Problema prinsipal ne'ebe mak Kompañia (CCT-NCBA) enfrenta mak menus ba inventaria material prima Kafe.

Inventariu material prima mak hanesan fator importante ba prosesu produsaun kafe.

Metodu ne'ebe mak utiliza atu responde ba problema ne'ebe mak Kompañia hasoru mak uza metodu *Economic Order Quantity (EOQ)*. Iha metodu ida ne'e sei koalia kona *Economic Order Quantity (EOQ) no Total Inventory Cost*. Utiliza metodu EOQ hodi identifika kuantidade ba hamenon (*pemesanan*) ou sosa (*pemebelian*) ne'ebe ho objetivu atu minimiza kustus inventariu liu husi kustus pemesanan no kustus *penyimpanan*.

## II. REVIZAUN LITERATURA

### 1. Definisaun Economi Order Quantity (EOQ)

*Economi Order Quantity (EOQ) tuir Charles T. Horngren, Srikante M. Datar, no George Foster (2006)* hateten Bainhira ema hakiak produtu, orden Negósiu barak bazeia ba buat ne'ebé presiza iha tempu ne'ebé lo' os. Tenke optimiza maneira ne'ebé haruk no o selu ba produtu ho Economi Order Quantity (EOQ).

*Tuir Heizer no Render (2011)* esplika katak (EOQ) mak hanesan téknika kontrolu estoke antigu no koñesidu liu, métodu kontrolu ida ne'e hatán ba buat neebé mak resposta ba kestaun importante rua (2) bainhira husu no husu saida mak sira atu halo tuir mai ne'e karik presiza no husu atu halo.

$$EOQ = \frac{\sqrt{2 \cdot S \cdot D}}{H}$$

### 2. Total Inventory Cost

*Tuir Heizer no Render (2011)*, iha sira-nia livru haktuir katak kalkulasaun ba Total kustu ba inventáriu materiál prima, mak hanesan tuir mai ne'e:

***Total Inventory Cost (TIC)***

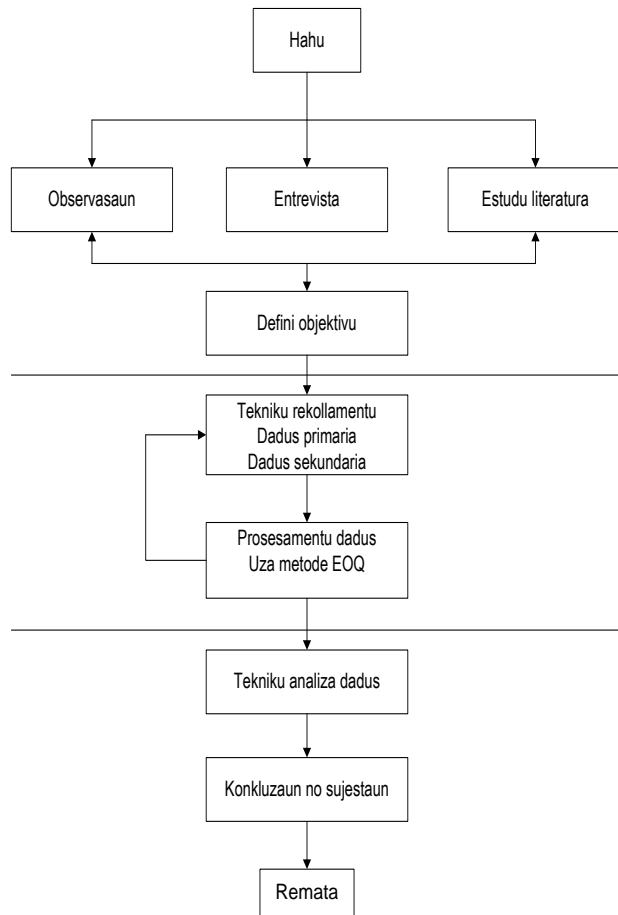
$$H = \frac{D}{2} + \frac{Q}{D}$$

### 3. Definisaun Kontrolu Inventariu

*Tuir Assauri (2016)* iha ninia livru haktuir katak kontrolu inventáriu hanesan atividade ida husi sekuénsia atividade sira

ne'ebé tuir sekuensia besik ba malu iha operasaun produsaun tomak kompañia nian tuir planu antes ne'e iha tempu, kuantidade no kustu.

## III. METODULOJIA PESKIZA



## IV. ANALIZA DADUS

### 1. Inventariu Material Prima

Iha Kompañia CCT-NCBA manleuana sosa material prima kafe musan fulan ida (1)

470 ka ho nia folin kafe kada kg \$ 2.50 cent, tuir mai tabela konaba inventariu ba material prima tinan 2022, hare tabela tuir mai ne'e:

**Tabela 4.1 Inventariu Materiál Prima Tinan 2022**

Tinan 2022				
Nú	Fulan	Material Prima Kafe (Kg)	Folin	Total
1	Janeiru	470	\$ 2.50	\$1.175.00
2	Febereiru	450	\$ 2.50	\$1.125.00
3	Marsu	670	\$ 2.50	\$1.675.00
4	Abril	760	\$ 2.50	\$1.900.00
5	Maiu	890	\$ 2.50	\$2.225.00
6	Junu	450	\$ 2.50	\$1.125.00
7	Jullu	570	\$ 2.50	\$1.425.00
8	Agostu	450	\$ 2.50	\$1.125.00
<b>Total</b>		<b>4710 Kg</b>	<b>\$ 20.00</b>	<b>\$11.775.00</b>

Fontes Dadas:Kompañia CCT-NCBA 2022

## 2. Dadas Kustu Inventáriu

Mensajen sira ne'ebé mosu iha kontrolu inventáriu ba material prima inklui: Kustu instalasaun nian mak hanesan kustu hotu-hotu ne 'ebé mak ezejuta ona

atu bele koordena instalasaun ba bein sira. Kustu atu fó orden la depende ba kuantidade husi orden, maibé depende ba kuantidade.

**Tabela 4.2 Kustu Operasaun Tinan 2022**

Nú	Tipu Taxa Reserva	Tinan 2022
1	Kustu Material Prima	\$ 11.775.00
2	Kustu Telefoni	\$ 700.00
3	Kustu Administrasaun	\$ 360.00
<b>Total</b>		<b>\$ 12,360.00</b>

**Tabela 4.3 Tipu Armazenamentu Tinan 2022**

Nú	Tipu Pagamentu	Tinan 2022
1	Kustu Manutensau armazen nian	\$ 400.00
2	Kustu Asuransi	\$ 300.00
3	Kustu Transportasi Material prima	\$ 450.00
<b>Total</b>		<b>\$ 1,150.00</b>

### 3. Kustu Armazenamentu

Kustu armazenamentu mak kustu ida ne'ebé presiza ba análise tuir ma, ne'ebé kalkula ho forma persentajen husi valór inventáriu sira. valór inventáriu mak númeru kafé ne'ebé haruka kada order no folin kafé ne'e kustu variavel ida-ne'ebé ninia

montante la depende ba númeru kafé kada order, montante kafé nia kustu armazenamentu mak kompana CCT-NCBA Manleuana determina iha 20% husi valór inventáriu material prima. Dadus konaba kustu armazenamentu bele haree iha tabela tuir mai:

**Tabela 4.4 Persentajen Kustu Material Prima, Folin Kada Kg no Kustu Armazenamentu**

Tinan	Kustu	Kustu Armazenamentu	Kustu Material Prima
	Folin Kada kg		
2022	\$2.50	\$1,150.00	20%

Husi tabela iha leten, kustu armazenamentu iha 2022 mak U\$ 1,150.00, montante husi sosa materiál prima kafe , folin kada kg no montante kustu orden nian iha kompañia

CCT-NCBA Manleuana durante 2022 bele haree iha tabela tuir mai:

**Table 4.4 Montante Kustu Pemesanan iha Kompañia CCT-NCBA Tinan 2022**

Tinan	Sosa Material Prima			Kustu Pemesanan	Kustu Armazenamentu
	Total kafe	Folin Kafe	Total Kustu		
2022	100KG	\$2.50	\$11,775.00	\$ 10,360.00	\$1,150.00

### 4. Determina atu sosa Material Prima Economi Order Quantity (EOQ)

Husi dadus ne'ebé hakerek nain hetan, hanesan dadus kona-ba nesesidade ba materiál prima iha tina 2022 no kustu S= Kustu kada order =11.775.00

D= Montante materiál prima ne 'ebé presiza iha período ida nia laran =4710 Kg

H= Kustu armazenamentu espresa hanesan persentajen ida husi média inventáriu =1,150.00

inventáriu ne'ebé kompañia tenke selu hodi determina montante fornesimentu materiál primeiru ekonómiku iha 2022 hanesan tuir mai:

## 5. Kalkula *Economic Order Quantity (EOQ)*

$$\begin{aligned}EOQ &= \frac{\sqrt{2 \cdot S \cdot D}}{H} \\EOQ &= \frac{\sqrt{2 \times 11.775.00 \times 4710}}{1.150.00} \\EOQ &= \frac{\sqrt{11.0920,5}}{1.150.00} \\EOQ &= \frac{104,9786}{1.150} \\EOQ &= 91,286 \text{ kg}\end{aligned}$$

Husi kalkulasaun iha leten, rezultadu husi *Economic Order Quantity (EOQ)* mak

91,286 kg kada tempu ne'ebé ita halo order.

## 6. Kalkulasaun *Total Inventory Cost*

Kalkulasaun ba Total kustu ba inventáriu materiál prima, mak hanesan tuir mai ne'e:

$$\begin{aligned}\text{TIC} &= \frac{D}{2} + S \frac{Q}{D} H \\&= \frac{4710}{2} + 11,775.00 \frac{291,31}{4710} \\&= 2.355 + 11,775.00 \cdot 0,062 \\&= 2.355 + 72,85 \\&= \$ 2.427,85 \text{ Cent}\end{aligned}$$

Rejultadu atual husi total inventoriu kost iha leten ita bele hatene katak kustu ne'ebe maka kompañia CCT-NCBA presija aloka

ba iha hola material prima fulan walu (8) nian mak \$ 2.427,85.

## V. KONKLUSAUN NO SUJESTAUN

### 1. Konkluzauun

Bazeia ba rezultadu peskizador utiliza metodu EOQ hodi analiza ba kontrolu inventariu ba material prima iha kompañia CCT-NCBA mak hanesan tuir mai ne'e:

- Bazeia ba kalkulasaun ne'ebé uza ona Metodu EOQ ne'e hanesan tempu ida atu sosa materiál prima iha fulan walu (8). Total Inventariu materiál primáriu kafe bazeia ba métodu EOQ mak 91,286kg
- Kompañia CCT-NCBA ne'ebé halo konketu tenke uza métodu EOQ hodi kontrolu inventáriu ba material sira

- Rejultadu atual husi total inventoriu kost ita bele hatene katak kustu ne'ebe maka kompañia CCT-NCBA presija aloka ba iha hola material prima fulan walu (8) nian mak \$ 2.427,85.

### 2. Sujestaun

Bazeia ba konkluzauun sira iha leten, bele fó sujestaun ba Kompania sira ne'ebé bele uza hanesan materiál ba konsiderasaun mak:

hodi minimiza kustu inventáriu sira atu hadi'a prosesu produsaun kafe.

b) Kompañia CCT-NCBA tenke determina montante order ne'eanian fila fali (*reorder point*) atu evita risku husi materiál ne'ebé liu Materia prima sira, atu minimiza

kustu ba inventariu materiál prima sira.

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